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DEPARTMENT OF MINES AND AGRICULTURE.

MEMOIRS OF THE GEOLOGICAL SURVEY OF NEW SOUTH WALES.
E. F. PITTMAN, A.R.S.M., GOVERNMENT GEOLOGIST.

PALÆONTOLOGY, No. 11.

A MONOGRAPH

OF THE

CRETACEOUS INVERTEBRATE FAUNA

OF

NEW SOUTH WALES;

BY

R. ETHERIDGE, JUNR., J.P.,
CURATOR OF THE AUSTRALIAN MUSEUM, SYDNEY.

SYDNEY: WILLIAM APPLEGATE GULLICK, GOVERNMENT PRINTER.

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The plates to illustrate this work will be issued separately at an early date.

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Prefatory Note by the Government Geologist.

This memoir is an important addition to the already lengthy list of contributions, by Mr. Robert Etheridge, Junior, to the Palæontology of Australia.

The Cretaceous rocks of this part of the world have hitherto been separated into two divisions, viz. :—

Upper Cretaceous—*Desert Sandstone Series.*

Lower Cretaceous—*Rolling Downs Formation of Queensland.*

Our information in regard to these rocks is somewhat limited, no detail surveys of them having yet been made in the State of New South Wales. It seems advisable, however, to prefacc Mr. Etheridge's Palæontological work with some brief notes on the geological characters and mode of occurrence of the rocks referred to, and it may be stated at the outset that the Chalk formation, which is such a remarkable feature of European Cretaceous deposits, is, so far as at present known, absent in Australia.

The Rolling Downs Formation was so named on account of the physiographical features of the large area of Queensland covered by it. This area, which forms good pastoral country, consists of vast plains or downs, the surface of which is composed of gentle undulations. The series consists of sandstones, shales, concretionary limestones, calcareous sandstones, marls, and gypseous clays. These rocks are mostly of marine origin, but, according to Dr. R. L. Jack, freshwater beds containing plant remains and thin seams of coal also occur in them. General interest was attracted to the Lower Cretaceous rocks some years ago on account of the belief that they were the source of the artesian water supply. The basal beds of the series consist of very porous sandstones, which were first examined by Dr. Jack (late Government Geologist of Queensland) in the neighbourhood of Blythesdale, near Roma ; Dr. Jack named these beds the Blythesdale Braystones, and he is responsible for the statement that they form the actual intake beds of the artesian basin.[1]

[1] Rept. Austr. Assoc. Adv. Science, 1895, Brisbane Meeting, VI, p. 332.

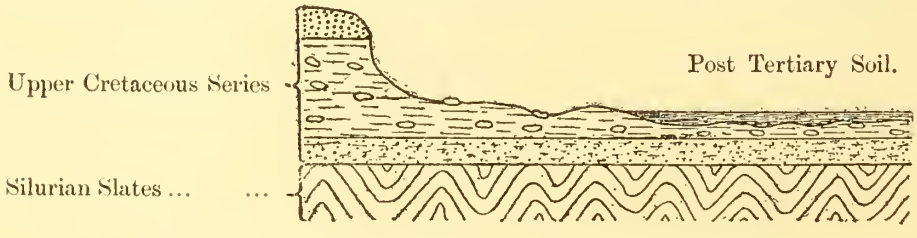
Whatever may be the case in Queensland, however, there is no room for doubt that in New South Wales the older sandstones of the Triassic Coal Measures form the beds from which the artesian water is obtained, for in two bores at Wallon and Bulyeroi, in this State, solid cores were extracted by means of the Calyx drill, and in these cores the limits of the Lower Cretaceous and Triassic rocks were defined by fossils, characteristic of the two formations respectively. No water was obtained in the Cretaceous rocks, and the Triassic Coal Measures were penetrated for a considerable depth before the first flow of artesian water was met with.[1]

Lower Cretaceous rocks have not yet been positively identified outcropping at the surface anywhere in the State of New South Wales, but it is certain that they occur under very large areas in which they have been covered by superficial deposits of Post-Tertiary age; for in the Wallon bore, in the Moree District, a thickness of 1,500 feet of these rocks was penetrated, and characteristic Lower Cretaceous fossils have also been obtained in shallow wells near Mount Poole, at a distance of at least 450 miles from the last-mentioned locality.

The Upper Cretaceous rocks, which are generally horizontally bedded or only slightly inclined, lie unconformably upon the Rolling Downs Formation or upon older (Palæozoic) rocks. They consist of coarse sandstones, fine-grained white siliceous rocks passing into kaolin, and conglomerates.

They were first geologically examined in the neighbourhood of White Cliffs by Mr. J. B. Jaquet, Geological Surveyor, in 1892, and he found that they rested there on contorted Silurian slates.

The following section shows the sequence of the beds in that locality:—



Section of Opal-bearing Rocks at White Cliffs.

The sandstones and grits are of marine origin, and form the lowest beds of the series. There are two typical varieties of Desert Sandstone. One of these is a soft grayish-white, and occasionally yellowish or reddish freestone, which

[1] E. F. Pittman, "The Mineral Resources of N. S. Wales," 1901, p. 462.

E. F. Pittman, photo

UPPER CRETACEOUS ROCKS (DESERT SANDSTONE SERIES) NINE MILES NORTH-EAST OF WHITE CLIFFS.

E. F. Pittman, photo.

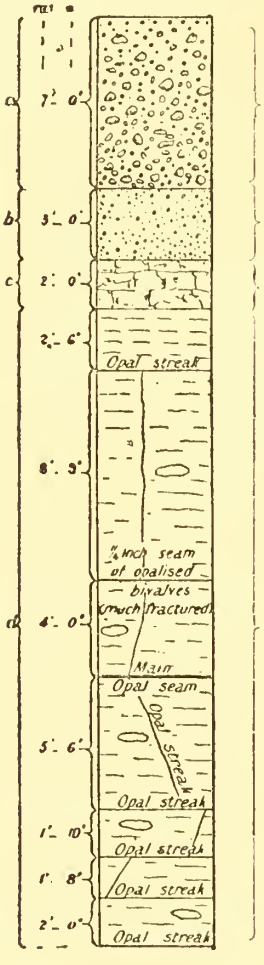
THE WHITE CLIFFS OPAL FIELDS SHALLOW OPAL WORKINGS, NEAR WHITE CLIFFS TOWNSHIP.

it is very difficult to distinguish from the Blythesdale Braystone (Rolling Downs Formation), or from the still older sandstones (Hawkesbury Sandstones) of the Triassic Coal Measures. The other variety is an intensely hard and brittle porcelainised rock; in all probability it was originally identical with the freestone, and has been indurated by having the interstices between the sand grains filled by secondary silica, which has given it a more or less opaline appearance. This rock rings like porcelain when struck with a hammer, and breaks with a conchoidal fracture. Areas of this indurated or porcelainised rock alternate with areas of unaltered freestone, and it seems probable that the metamorphism has been caused by the action of thermal springs.

The Desert Sandstones cover an enormous area in Australia. In New South Wales they attain a thickness of 400 or 500 feet in places, as in the Grey Ranges, and at Mount Oxley, near Bourke; but for the most part they form low isolated hills, representing the remnants of a very widespread deposit which has been largely removed by denudation.

Above the Desert Sandstone occur beds of very fine-grained soft white rock, more or less allied to Kaolin. In some places near White Cliffs this rock is almost devoid of alumina, and judging from its general characters it may possibly have had an organic origin. Spherical casts which have been observed in it are probably the remains of Radiolaria, though their structure is not sufficiently well preserved to admit of absolute identification. Other samples of this fine-grained white rock were found, on analysis, to contain from 15 to 25 per cent. of alumina, and in them Professor David and Mr. W. S. Dun detected minute organic remains, which, they were of opinion, were probably Diatomaceæ. Deposits of precious or noble opal occur in these rocks at and near White Cliffs, and opal mining has now become a flourishing industry, supporting a population of over 2,000 persons in the township of White Cliffs. These white rocks also contain numerous marine fossils, as well as Sauropterygian bones, many of which have been converted into precious opal. A remarkable feature of the beds is that occasional waterworn boulders of Devonian quartzite, often several feet in diameter, are scattered through them. Many of these boulders contain characteristic Devonian Brachiopoda, which are also occasionally found to have been converted into noble opal. In one specimen, about nine inches in diameter, which has been secured for the Geological Museum, half of the boulder has been opalised, while the other half is in its original state, the line of division between the opalised and the

unaltered quartzite being extremely regular and clearly defined. The following section, illustrating the mode of occurrence of the deposits of precious opal, was measured in the mines at White Cliffs :—



Rather loose conglomerates, consisting of pebbles varying from the size of a pea up to two feet or more in diameter. The pebbles are formed of Upper Cretaceous quartzite (porcelainised rock), conglomerate, ironstone, &c., and the rock is considerably stained by ferric oxide.

Very hard conglomerate, locally termed "geaser," composed mostly of small pebbles of the size of a pea, cemented by secondary silica. This rock is considerably stained by ferric oxide.

Hard, flinty, yellowish-white rock, passing gradually downwards into "d."

Soft white rock, of the character of kaolin, the joints stained in places by ferric oxide. Interspersed through this are occasional water-worn boulders (sometimes two or three feet in diameter) of quartzite, containing characteristic Devonian fossils. The precious opal deposits appear to follow joints, cracks, and faults in the kaolin, occurring in horizontal seams as well as in vertical or highly inclined veinlets connecting the latter. These seams or veins of precious opal are usually as thin as a knife, but open out occasionally to a thickness of an inch or more.

The following analyses of samples of the soft white rock from different localities were made by Mr. H. P. White, Assistant Analyst to the Geological Survey :—

1882.—Material from range 9 miles north-west of White Cliffs Opal Field.

	Per cent.
Moisture at 100° C	5·40
Combined water	5·91
Silica (SiO_2)	68·12
Alumina (Al_2O_3)	15·25
Ferric oxide (Fe_2O_3)	·76
Ferrous oxide (FeO)	·27
Manganous oxide (MnO)	minute trace
Copper oxide (CuO)	absent
Lime (CaO)	·42
Strontia (SrO)	trace
Magnesia (MgO)	·77
Potash (K_2O)	·73
Soda (Na_2O)	·77
Phosphoric acid (P_2O_5)	·01
Vanadium pentoxide (V_2O_5)	·03
Titanic acid (TiO_2)	·74
Chromium sesquioxide (Cr_2O_3)	minute trace
Sulphur trioxide (SO_3)	·19
Chlorine (Cl)	1·29
	100·66
Less oxygen equivalent for chlorine	·28
	100·38

1879.—Fire clay from Bunker Creek, near White Cliffs Opal Field.

	Per cent.
Moisture at 100° C	3·98
Combined water	7·30
Silica (SiO_2)	63·55
Alumina (Al_2O_3)	21·89
Ferric oxide (Fe_2O_3)	·57
Ferrous oxide (FeO)	·21
Manganous oxide (MnO)	minute trace
Copper oxide (CuO)	minute trace
Lime (CaO)	·32
Strontia (SrO)	—
Magnesia (MgO)	·57
Potash (K_2O)	·64
Soda (Na_2O)	·71
Phosphoric acid (P_2O_5)	minute trace
Vanadium Pentoxide (V_2O_5)	·03
Titanic acid (TiO_2)	·24
Sulphur trioxide (SO_3)	·04
Chlorine (Cl)	·64
	100·69
Less oxygen equivalent for chlorine	·14
	100·55

1881.—Material occurring just below seam of opalised bivalve shells, White Cliffs Opal Field.

	Per cent.
Moisture at 100° C	3·83
Combined water	8·27
Silica (SiO_2)	61·60
Alumina (Al_2O_3)	23·32
Ferric oxide (Fe_2O_3)	·80
Ferrous oxide (FeO)	·18
Manganous oxide (MnO)	minute trace
Lime (CaO)	·48
Magnesia (MgO)	·70
Potash (K_2O)	·27
Soda (Na_2O)	·24
Phosphoric acid (P_2O_5)	minute trace
Vanadium pentoxide (V_2O_5)	·01
Titanic acid (TiO_2)	·72
Chromium sesquioxide (Cr_2O_3)	—
Sulphur trioxide (SO_3)	—
Chlorine (Cl)	trace
	100·42

1566.—White siliceous rock from Bunker Creek, near White Cliffs Opal Field.

	Per cent.
Moisture at 100° C	1·90
Combined water	7 89
Silica (SiO_2)	66·14
Alumina (Al_2O_3)	21·45
Ferric oxide (Fe_2O_3)	·78
Ferrous oxide (FeO)	—
Manganous oxide (MnO)	absent
Lime (CaO)	·41
Magnesia (MgO)	·45
Potash (K_2O)	·68
Soda (Na_2O)	·46
Phosphoric acid (P_2O_5)	minute trace
Sulphur trioxide (SO_3)	·11
Chlorine (Cl)	·17
Organic matter	trace
	100·44
Oxygen equivalent of chlorine	·0
	100·41

1883.—White Cliffs Opal Field, just above the third opal seam.

	Per cent.
Moisture at 100° C	2·37
Combined water	9·33
Silica (SiO_2)	59·64
Alumina (Al_2O_3)	25·44
Ferric oxide (Fe_2C_3)	·59
Ferrous oxide (FeO)	·27
Manganous oxide (MnO)	minute trace
Lime (CaO)	·74
Magnesia (MgO)	·47
Potash (K_2O)	·35
Soda (Na_2O)	·38
Phosphoric acid (P_2O_5)	·02
Vanadium pentoxide (V_2O_3)	trace
Titanic acid (TiO_2)	·57
Sulphur trioxide (SO_2)	·06
Chlorine (Cl)	·02
	100·25

1880.—Gritty Rock, Bunker Creek, near White Cliffs Opal Field.

	Per cent.
Moisture at 100° C.	4·81
Combined water	8·23
Silica (SiO_2)	62·83
Alumina (Al_2O_3)	20·00
Ferric oxide (Fe_2O_3)	·27
Ferrous oxide (FeO)	·28
Manganous oxide (MnO)	minute trace
Lime (CaO)	·35
Magnesia (MgO)	·48
Potash (K_2O)	·71
Soda (Na_2O)	·43
Phosphoric acid (P_2O_5	·01
Vanadium pentoxide (V_2O_5)	trace
Titanic acid (TiO_2)	·96
Sulphur trioxide (SO_2)	·22
Chlorine (Cl)	1·17
	100·75
Less oxygen equivalent for chlorine	·25
	100 50

From fossil evidence obtained from artesian bores in the North-western District of New South Wales, there can be little doubt that the Triassic Coal Measures are continuous under the Cretaceous rocks from Moree to the South Australian border (a distance of between 500 and 600 miles) or even further. It is difficult, therefore, to realise that there can be, as stated by Dr. Jack, an unconformability between the two series, and it appears probable that the evidences of unconformity, observed by him in Queensland, were merely local, and were due to contemporaneous erosion of the Upper Triassic beds. It seems more reasonable to assume that the Triassic Coal Measures and the Cretaceous beds form parts of a continuous series, and that they succeeded one another regularly without marked break; that the depression in which they were laid down extended from the Gulf of Carpentaria southwards to the Darling River and was subject to alternations of elevation and subsidence, so that it became by turns a freshwater lake or an inland sea.

EDWARD F. PITTMAN,
Government Geologist.

Sydney, 29th September, 1902.

Author's Preface.

A comparison of the Cretaceous Organic Remains of the political areas known as the States of Queensland and South Australia with those found within the boundaries of N. S. Wales, will demonstrate at a glance the superiority of the former as collecting grounds. This arises from the fact that the Cretaceous deposits of the areas in question, in a great measure, crop at the surface, whilst those of N. S. Wales, with the exception of the White Cliffs Opal Series, and possibly a few other isolated spots, are deep seated, and known only by borings and well-sinkings. Hence the apparent disparity in the number of species met with in our State; as, however, there is no reason to doubt the general continuity of the series from Queensland to South Australia through the north-western and mid-western portions of N. S. Wales, it is in every sense probable that this diminution in species is one solely due to the exigencies of collecting.

It was deemed advisable by Mr. E. F. Pittman to prepare a Monograph of the N. S. Wales Cretaceous Invertebrata as at present known, a task I undertook with much pleasure.

R. ETHERIDGE, Junr.

Sydney, April, 1902.

I.—INTRODUCTION.

The material described in the following pages is contained in the collections of the Mining and Geological Museum, Sydney; the Macleay Museum at the University of Sydney; and in that of Mr. F. G. de V. Gipps, to whom I am indebted for the opportunity of examining a number of opalised shells from the Upper Cretaceous of White Cliffs.[1]

The first-mentioned series of specimens was collected at various times by the late Mr. C. S. Wilkinson, Government Geologist, his successor Mr. E. F. Pittman, Mr. H. Y. L. Brown, the present Government Geologist of South Australia, and at that time an officer of the Geological Survey of N. S. Wales, and Mr. Charles Cullen, collector to the latter body, with, in addition, donations to the Museum by private individuals.

The specimens contained in the Macleay Museum were mostly collected by Mr. H. Gilliatt, late Inspector of Public Tanks and Wells, and were described by the late Rev. J. E. Tenison Woods. For the loan of these fossils I am indebted to the Committee of Management (Profs. T. W. E. David and W. A. Haswell).

The labours of Dr. R. L. Jack and his Colleagues on the Geological Survey of Queensland have proved that the Cretaceous of that State is divisible into an Upper and a Lower Series—the "Desert Sandstone Series" of Daintree, and the "Rolling Downs Formation" of Jack, the one resting unconformably on the other. The work of the Geological Surveyors of N. S. Wales has shown that the same relations exist in this State, whilst surveys of Mr. H. Y. L. Brown, and the Palæontological researches of the late Prof. R. Tate demonstrate a like superposition in South Australia.

The life of the two main divisions of the Queensland Cretaceous we now know to be practically the same, notwithstanding the unconformability—at any rate so far as the organic remains from the few fossiliferous localities in the Desert Sandstone Series permit us to arrive at a conclusion. These horizons are—Maryborough, on the east coast; Battle Camp, near Cooktown; and Croydon, in the Gulf country.

[1] A few additional opalised forms were contributed by Mr. H. Y. L. Brown.

In New South Wales the same two divisions have been recognised; and although but little detailed mapping has been done, much general information relating to the occurrence and nature of the beds has been obtained, as already mentioned, by Mr. Pittman and his Officers. The former gives a summary of the subject in his recently-issued work—"The Mineral Resources of New South Wales." [1] I do not propose to enter upon a geological description of our Cretaceous deposits; but for further information the reader is referred to the works catalogued in the accompanying Bibliography, for which I am indebted to Mr. W. S. Dun, Palæontologist to the Geological Survey.

The time is not far distant when we shall be in a position to break up our Continental Cretaceous System into a number of well-defined life zones, marking equally well-defined geological horizons—*i.e.*, a series of beds in which certain species, or some one species in particular predominates to the exclusion of others equally indicative of the system as a whole, although not characteristic to the same extent of the beds in question. My studies in Queensland and South Australian Cretaceous Palæontology confirm this. I am a strong advocate of adopting European or other foreign nomenclature for our great geological divisions of strata only in the broadest sense, *i.e.*, from the homotaxial standpoint, regarding them merely as apparently occupying the same relative position in the geological series, and not as precisely synchronous. Within such divisions I similarly advocate the employment of local terms for minor divisions of strata.

In certain of our Systems this has already been carried out to some extent. For instance, the Wianamatta, Hawkesbury and Clarence Series, of Clarke and Wilkinson, in that group of strata believed to be homotaxial with the Trias of other parts of the world; the subdivisions now adopted in distinguishing our Coal Measures and associated marine strata, through the researches of Keene, Mackenzie, Wilkinson, and David, and grouped as a whole under the term Permo-Carboniferous, suggested by myself; the names employed by McCoy and Selwyn, in Victoria, and Jack, in Queensland, to subdivide the strata believed to represent the Devonian of other countries, such as the Buchan and Bindi Limestones, &c., or the Burdekin and Fanning Limestones in the latter of the two States, to say nothing of the potentialities of the great Cambrian area of South and Central South Australia foreshadowed by the labours of Tate, Brown, and Howchin. Similarly, I am of opinion that equally useful subdivisions will be possible in the Cretaceous.

[1] 8vo. Sydney, 1901 (By Authority).

II.—PALÆONTOLOGICAL HISTORY OF THE CRETACEOUS DEPOSITS OF NEW SOUTH WALES.

Previous records of the occurrence of Cretaceous fossils within the boundaries of this State are not numerous.

1861.—In this year the late Rev. W. B. Clarke wrote as follows:—"In this Colony the only Ammonite I have heard of is one in my own possession, found in surface drift in the Clarence River district; but it is a fragment only and may belong to a far older formation than the Cretaceous."[1] No beds of this age are known east of the Great Dividing Range, so it is possible that the specimen may have been an Ammonoid derived from either Carboniferous or Permo-Carboniferous beds.

1881.—In his "Report on the Albert Gold-field,"[2] Mr. H. Y. L. Brown stated that in the upper position of the Cretaceous (Desert Sandstone) as developed in the Grey Ranges, situated in north-west N. S. Wales, "on the top of one of these small tablelands, 8 or 10 miles south-west of Whampa, there is a grove of fossil tree stumps, standing in an upright position; there are thirteen or fourteen large ones, the greatest diameter being about 4 feet and the height 5½ feet. The woody portion is represented by a white quartz rock, and the bark by a brown quartzose sandstone and grit. Many of them are hollow, and fragments are lying about in all directions. Originally they must have been covered up while erect by a deposit of mud or other soft material like that on which they grew, and became petrified by the infiltration of silica and deposition of sand in their hollow portions; the matrix having since been denuded, they stand as evidences of how trees have degenerated in size in this part of the country since Cretaceous times."

In the lower portions of the same formation (Rolling Downs Series), Mr. Brown says of the organic remains:—"In the limestone boulders and bands, and in the mudstone of this deposit, Cretaceous fossils are found in large numbers, consisting of shells, leaves, and wood, at Mokely Well, near Mount Poole, near Mount Stewart, and at Kalpite, Mount Wilson, and Ceolpocha Wells, [and] on Dunlop Run in the Darling District."

[1] Recent Geol. Obs. in Australasia, 2nd Edit., 1861, pp. 14-15.
[2] N. S. Wales Parl. Papers, 1881, 427-A.

1882.—In 1882 Mr. Hogarth exhibited before the Royal Society of South Australia, shells obtained at a depth of two hundred and sixty feet in a well sinking on Momba Station, near Mount Brown, North-West N. S. Wales, "which Prof. Tate referred to the Jurassic genus *Aucella*."[1]

In the same year, the late Mr. C. S. Wilkinson, Government Geologist, announced that Mr. E. G. Vickery, L.S., and Mr. Warden W. H. J. Slee obtained "*Ammonites Daintreei, Belemnites, Cytherea, Avicula*, &c.," in the country between the Mount Poole Gold-field and the Queensland border,[2] no doubt from Lower Cretaceous strata.

1883.—In the following year, Mr. H. A. Gilliatt exhibited before the Linnean Society of N. S. Wales a collection of Cretaceous fossils from the Mount Brown Diggings. In commenting on the exhibit the late Rev. J. E. Tenison Woods drew attention to the abundance of *Avicula alata*, Etheridge, and considered that the matrix was curiously like the Greensand of Europe.[3]

At the next meeting of the same Society Mr. Woods described a series of fossils obtained by Mr. Gilliatt, "found in sinking a well on Mount Stewart Run, which is situated on the Grey Ranges. The fossiliferous rock was struck at a depth of 90 feet." There appears to be every probability that these, and those previously recorded as coming from the "Mount Browne Diggings," are one and the same. Said Mr. Woods, "the remains comprise many specimens of *Avicula*, some *Gryphœæ*, a *Trigonia*, *Belemnite*, *Pecten*, *Ostrea*, *Pinna*, *Cyprina*, *Mytilus*, and many broken fragments." Further on again—"Some valves too imperfect for satisfactory identification, but not unlike *Cucullæa inflata*, Moore . . . . Also fragments of a large *Cyprina* (*C. expansa*, Etheridge ? . . . .) a *Mya*, *Tellina*, and finally numerous large and well-preserved examples of *Avicula* with characters which belong to many of the species described by Moore."[4]

The forms described and figured were *Belemnites oxys*, Ten. Woods, *Trigonia mesembria*, Ten. Woods,[5] *Pecten psila*, Ten. Woods,[6] and *Avicula Barklyi*, Moore, vel *reflecta*, Moore, var. *Gilliatti*, Ten. Woods.[7] Little doubt can exist that the shells spoken of as *Avicula alata*, Etheridge, in the previous notice were those afterwards described as *Avicula Barklyi*, &c.

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[1] Trans. R. Soc. S. Austr. for 1881–82 [1882], V, p. 115.
[2] Min. Products N. S. Wales, 1882, p. 55. (These remarks are repeated in the Second Edition [1887] of the same work.)
[3] Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 218.
[4] *Ibid.*, pp. 235–36, t. 12 and 13.
[5] *Trigonia nasuta*, Etheridge.
[6] *Syncyclonema socialis*, mihi.
[7] *Maccoyella reflecta*, mihi.

1887.—No record appears to exist of any collecting operation, or even observations of a Palæontological nature between 1883 and 1887. In the latter year appeared the second edition of the late Mr. C. S. Wilkinson's "Notes on the Geology of New South Wales."[1] The following Cretaceous species are therein mentioned:—*Modiola* (*Mytilus*) *flagelliferus*, Forbes,[2] obtained by Mr. James Wilson from calcareous greensand, at a depth of four hundred and eighty feet in a well-boring on Dunlop Holding, Darling River; and *Ammonites Daintreei*, Etheridge,[3] with *Belemnites*, *Cytherea*, and *Aricula* from well-sinkings between the Mount Poole Gold-field and the Queensland border, obtained by Messrs. Vickery and Slee.

1893.—In 1893, Mr. J. B. Jaquet, of the New South Wales Geological Survey, furnished a "Report on the White Cliffs Opal-field."[4] The beds in which the opal is found are referred to the Desert Sandstone Series of Daintree, and the replacement of the remains of Mollusca and other organisms by opal is referred to. Belemnites were found in the kaolin beds *in situ*. Amongst other forms the opal occurs as:—

1. Opaline shells and pseudomorphs, probably after gypsum.
2. Wood opal.

The late Prof. W. J. Stephens exhibited before the Linnean Society of New South Wales, wood obtained from a well sinking on the Dunlop Holding, at a depth of three hundred feet, evidently in the Lower Cretaceous.[5]

1894.—The only record of a Foraminifer in our Cretaceous beds, known to me, was made by the Rev. W. Howchin, who, in his "Census of the Fossil Foraminifera of Australia," mentions the discovery of *Bigenerina nodosaria*, D'Orb., in a small sample of bore material from the Wilcannia Bore. It is "one of the most characteristic of the Australian Cretaceous foraminifera."[6]

1895.—Dr. J. C. Cox exhibited to the Linnean Society of New South Wales an opalised shell from White Cliffs, considered by him to be a *Mactra*.[7] It may possibly be a species of the new genus described in this Memoir as *Cyrenopsis*.

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[1] Min. Products N. S. Wales, 2nd Edit., 1887, pp. 78–79.
[2] *Modiola dunlopensis*, mihi.
[3] *Haploceras Daintreei*, mihi.
[4] Ann. Rept. Dept. Mines and Agric. N. S. Wales for 1892 (1893), pp. 140–142.
[5] Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 281.
[6] Proc. Austr. Assoc. Adv. Sci. for 1893 (1894), V, p. 363.
[7] Proc. Linn. Soc. N. S. Wales, 1895, IX (2), Pt. 3, p. 467.

In his "Report on the north-western portion of the Colony" (N. S. Wales), to the west of the Paroo River, Mr. E. F. Pittman says:—"In none of the country traversed by me were the Lower Cretaceous rocks (Rolling Downs formation of Queensland) to be seen outcropping at the surface, there being always a capping of either desert sandstone or of Pleistocene sands to hide them from view. But in the spoil-heaps of many of the wells which have been put down by the pastoral lessees are to be seen the characteristic blue clays and sandy shales of the Lower Cretaceous formation containing *Belemnites*, *Maccoyella reflecta*, *Maccoyella corbiensis*, &c. I also obtained a specimen (presented by Mr. A. Lang) of a very large bivalve, which Mr. Etheridge believes to be new; and Mr. Warden Maitland presented me with a specimen (from the Upper Cretaceous rocks of Mount Stuart) of a fossil tree-fern, which is also new to Australia.[1]

1895.—At a meeting of the Geological Society of London, on 21st November, 1894, the President (Dr. Henry Woodward) exhibited[2] "Opalised Cretaceous Fossils, consisting of a tooth of *Polyptychodon*, the guard of a *Belemnitella*, and a bivalve shell, from New South Wales," and "Precious Opal having the form of a *Natica*." No doubt these were from White Cliffs, although no locality is given. I have not seen a *Belemnitella* from our Cretaceous beds.

1897.—During this year I published some remarks on the opalisation of fossil organic remains at White Cliffs when describing "An Australian Sauropterygian (*Cimoliosaurus*), converted into Precious Opal."[3] From this paper I extract the following remarks:—

"The animal remains occur under the following conditions:—

"1. As external or internal casts in kaolin, without opalisation of any kind.

"2. Entirely converted into hydrous silica or Common Opal, white and opaque, but occasionally with traces of the coloured variety scattered through.

"3. Wholly or partially converted into translucent-glassy to vitreous semi-opaque Precious Opal, displaying a fine range of colour.

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[1] Ann. Rept. Dept. Mines and Agric. N. S. Wales for 1894 (1895), p. 112.

[2] Quart. Journ. Geol. Soc., 1895, li, p. iii.

[3] Rec. Austr. Mus., 1897, III, No. 2, pp. 19-27, t. 5-7.

"The colours visible by reflected light are principally blue, red, green, and yellow, with their various shades and combinations, not the least pleasing being an ever-varying degree of red and blue-tinted purple.

"When the fossils are in the form of kaolin casts, specific identification, with a very few exceptions, is almost unattainable. Those in which opalisation, however, has taken place, are always determinable, more or less, and the substitution of the original carbonate of lime has been very thoroughly carried out. Fragments of these opalised remains, chiefly shells, are freely scattered throughout some hand specimens of the opaline kaolinised conglomerate, from the bed B of Mr. Jaquet's section. The kaolin casts are either white or tinged with iron-oxide, arising from the highly ferruginous clays that Mr. Jaquet says the kaolin passes into.

"The opalised fossils comprise Crinoid remains, the shells of Pelecypoda and Gasteropoda, portions of Belemnite guards, Sauropterygian bones. The preservation of some of these fossils is excellent, although all are not alike in this respect, and the extent to which the opalisation has at times been carried is remarkable.

"In some Pelecypoda, the external growth laminæ, and intermediate sculpture striæ are fully preserved, whilst the shell substance is completely changed, and by transmitted light the valves of many are almost transparent. On the fractured edges of one of these bivalves the glassy opal is quite translucent by reflected light. When such valves are met with in apposition, the interiors are often found to be filled with soft kaolin, and no better examples of the complete change that has taken place can be examined.

"The replacement of the fibrous calcite of the Belemnite guard, when viewed in cross-section, presents a far less translucent, and much more opaque and vitreous-looking appearance than that seen in the other Mollusca. In one small guard in particular, now before me, remains of the radiating fibres and concentric layers of calcite are visible round the periphery, gradually fading off into a dark-blue and purple vitreous-looking opal.

"Pre-eminent for its beauty is a bivalve, obligingly lent to the Geological Survey of N. S. Wales for examination by Mr. H. Newman, jeweller, of Melbourne. This is without exception one of the most beautiful conditions of fossilisation I ever beheld—perfectly clear of the matrix, with the valves in apposition and save for a slight crushing about the centre of one of them. quite perfect, wholly converted into Precious Opal, and with a play of colour

quite equal to the fragments in quartzite shortly to be referred to. The shell substance is almost glassy transparent; it is probably identical with the shell already referred to, with the translucent fractured edges, from the collection of Mr. G. de V. Gipps, also lent to the Geological Survey.

"Mr. J. E. Carne informs me that the Survey Collection contained, previous to the Garden Palace fire, an Ammonite, wholly converted into Precious Opal, six inches in diameter! This came from White Cliffs, and was probably one of the first fossils ever obtained there."

1898.—The late Prof. Ralph Tate described two opalised shells from White Cliffs as *Lucina? Bonythoni* and *Platopis? corrugata*.[1] The specimens are contained in the collection of the School of Mines and Industries at Adelaide, and will be found referred to on subsequent pages.

1898.—At a meeting of the Royal Society of South Australia Prof. Tate exhibited[2] fossils from White Cliffs consisting of a Reptilian humerus Ichthyosaurian vertebræ, wood structure, and various molluscan tests.

1899.—From the Cretaceous rocks at Yandamah Creek, near Milparinka, Mr. W. S. Dun recorded[3] the following fossils:—*Ammonites*, *Cyprina*, wood bored by *Teredo*, and *Maccoyella Barklyi*, Moore, sp.

1901.—In his recently published work, "Mineral Resources of New South Wales," Mr. E. F. Pittman says:—[4]

"The Wallon bore is situated about twenty miles N. by W. from Moree, and the evidence supplied by it was quite as important as that just referred to. The Lower Cretaceous rocks were entered a short distance below the surface, and continued to a depth of 1,500 feet. They consisted of sandstones, shales, and marine limestones, and contained numerous bivalve shells, such as *Corimya*, *Maccoyella*, and *Pinna*. These rocks were succeeded in depth by the Triassic Coal Measures, containing characteristic plant remains."

1901.—The last reference I have to make to this portion of the subject is a paper by Mr. G. Gürich, of Breslau, entitled "Jura-und Devon-Fossilien von White Cliffs, Australien."[5] Here six or more species are described or noted from the White Cliffs Opal-field, viz.:—

Avicula Barklyi, *Moore*.	Teredina opalina, *Gürich*.
Trigonia sp., *cf.* Moorei, *Lycett*.	Natica variabilis, *Moore*.
Cyrena, sps.	Belemnites Kleinii, *Gürich*.

[1] Trans. R. Soc. S. Austr. for 1897–98 (1898), XXII, Pt. 2, pp. 77–79.
[2] Trans. R. Soc. S. Austr. for 1897–98 (1898) XXII, Pt. 1, p. 257.
[3] Ann. Rept. Dept. Mines and Agric. N. S. Wales for 1898 (1899), p. 191.
[4] P. 462 (8vo. Sydney, 1901).
[5] Neues Jahrb. f. Mineralogie, &c., 1901, Beil. Bd. XIV, p. 484.

and a vertebra of a *Plesiosaurus*. These fossils will be found referred to in their proper places, but the two new species are no doubt good and distinct, and an addition to our fauna.

On the strength of these and a most imperfect and elementary knowledge of Australian Mesozoic Geology and its bibliography, the author pedantically propounds his views of the White Cliffs opalised fossils. He considers them to be quite younger Jurassic, possibly either Dogger or Malm, whilst our Cretaceous formation at large is supposed to represent a series of deposits extending from the Upper Dogger to the Upper Chalk.[1]

[1] Neues Jahrb. f. Mineralogie, &c., 1901, Beil. Bd. XIV, p. 484.

III.—DESCRIPTION OF THE GENERA AND SPECIES.

CRINOIDEA.

Genus—ISOCRINUS, *Von Meyer*, 1837.[1]

(Mus. Senkenberg, 1837, p. 251.)

ISOCRINUS AUSTRALIS, *Moore, sp.*

(Pl. IV, Figs. 7–10.)

Pentacrinus australis, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 243, t. 17, f. 3. t. 18, f. 1.

Pentacrinus australis, Eth. fil., Cat. Austr. Foss., 1878, p. 105.

Pentacrinus australis, Eth. fil., Geol. Pal. Q'land., &c., p. 439, t. 20, f. 1–3.

Isocrinus australis, Eth. fil., Bull. Geol. Survey Q'land., 1901, No. 13, p. 6, t. 1, f. 4, t. 3, f. 1–3.

Obs.—I believe the subject of the above figures represents a small individual of *Isocrinus australis*, but like the larger example lately figured by me, is imperfect.

The specimen consists of a portion of the dorsal cup, and the remains of three rays, with six primibrachialia. I cannot distinguish any specific difference between this specimen and that previously referred to *I. australis* in the Sweet Collection. It is, however, of very great interest as affording another palæontological link between our Upper and Lower Cretaceous.

Columnals are absent, the centre of the dorsal cup being obscured by fracture, but three of the first brachials ($\bar{1}$ Br.), are present and apparently entire, with a portion of a fourth. Three of the first radials are distinctly visible, and the second and third radials of three rays are preserved.

The fixed brachials ($\bar{1}$ Br.), as in the larger specimen described elsewhere, resemble small knobs or nodes, and the three third radials are axillary also. The largest number of primibrachs ($\bar{1}$ Br.) on any one arm is twelve, and the twelfth is primaxil ($\bar{1}$ ax.) The other arm divisions are broken

[1] Redefined, Bather, 1898.

before reaching their primaxils. In my former description I regarded the thirteenth primibrach as primaxil, possibly I may have erred in so doing, by including a fracture between two ossicles as a gap from which one was supposed to have fallen.

In the angle between two of the primibrachialia are a number of small joints in two lines, side by side. One line numbers about fifteen and the other four. The oval, or almost round section, and small central canal lead me to regard these as displaced cirri. If such be their nature, the stem of *I. australis*, must have given support to fairly long organs of this nature.

The specimen is wholly converted into translucent opal, blue, green, or purple in colour, with here and there slight traces of precious or fire opal.

Loc.—White Cliffs, near Wilcannia, north-west N. S. Wales (*Warden W. L. Mackenzie*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Coll.—Mining and Geological Museum, Sydney.

A few other Crinoid remains have been met with in the same beds. The first is a portion of an arm consisting of a number of indifferently preserved ossicles with pinnules attached to at least six of them. The latter are composed of short joints, triangular in section (Pl. III, Fig. 10).

The second specimen is another portion of an arm with an axillare (Pl. III, Fig. 11).

The third instance is again a portion of an arm consisting of many joints, with the remains of at least ten pinnules attached (Pl. VI, Fig. 7).

All three specimens are converted into common opaque white opal.

Loc.—White Cliffs, near Wilcannia, north-west N. S. Wales. (*F. G. de V. Gipps and C. Cullen.*)

Hor.—Upper Cretaceous (White Cliffs Opal Deposit).

Coll.—Mining and Geological Museum, Sydney; and Gipps.

ANNELIDA.

Genus—SERPULA, *Linnæus*, 1758.

(Systema, Ed. X, 1758, p. 786.)

SERPULA TONGOWOKENSIS,[1] *sp. nov.*

(Pl. I, Fig. 14.)

Sp. Char.—Tubes subcylindrical, nonearinate, as broad as high, or even a little broader than high, attached wholly to the foreign body affording them support, or intermingled and superimposed on one another, but without a trace of intercoiling, or formation of a helix, and passing out in free ends; when separate, running parallel to one another in the same plane, and in contact laterally; when intermingled forming loosely aggregated groups. Section oval. Surface nearly smooth in places, or transversely wrinkled and somewhat corrugated in others.

Obs.—The late Mr. Charles Moore recorded[2] a *Serpula* from the Wollumbilla beds of the Queensland Rolling Downs Formation, which he referred to *S. intestinalis*, Phill.,[3] but without description or figure. In Phillips' fossil the tube seems to spring from a loosely coiled nucleus, giving one the impression of a solitary rather than a communal form as in the present instance. The latter is also distinct from an allied form, *S. tenuicarinata*, M. and H.,[4] from the Cretaceous of Dakota and the Upper Missouri, in which the tubes are carinate and separate. The tubes are attached to the outer surface of the shell of *Maccoyella corbiensis*, Moore, sp.

The nearest ally to this form I have been able to find is *S. semicoalita*, Whiteaves,[5] from the Cretaceous rocks of Manitoba, but differs in possessing tubes of a less intermingled character.

Loc.—Mount Stuart Run, Co. Tongowoko, N.W. New South Wales (*H. Gilliatt*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, Sydney.

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[1] From Tongowoko County, in which the locality, Mount Stuart Run, is situated.
[2] Quart. Journ. Geol. Soc., 1870, XXVI, p. 239.
[3] Ill. Geol. Yorkshire, Pt. 1, 1829, t. 5, f. 21.
[4] Report U. S. Geol. Survey (Hayden's), 1876, IX, p. 507, t. 6, f. 1.
[5] Contrib. Canadian Pal., 1889, I, Pt. 2, No 4, p. 185, t. 26, f. 1.

SERPULA SUBTRACHINUS, *sp. nov.*

(Pl. VII., Fig. 10.)

Sp. Char.—Tubes solitary, fully attached by one surface, flexuous, or possessing some degree of curvature, without coil or helix, attenuated posteriorly, carinate; section triangular to obtusely triangular; carina fine, median, anteriorly terminating in a groove; aperture triangular, neither thickened, nor unduly enlarged. Surface transversely and delicately corrugate, here and there one corrugation slightly more prominent, or coarser than the others, the corrugations inflected, or inbent towards the carina.

Obs.—It is difficult to assign a name to this rather common form of *Serpula*, but with the exception of size, it is very close indeed to *S.* (*Vermilia*) *trachinus*, Roemer [+*S.* (*Vermilia*) *lophioda*, Roemer].[1] In one instance two tubes are partially joined together laterally, all the others are solitary. As in many other *Serpulæ*, the carina appears to end anteriorly in a line of least resistance forming a groove.

Loc.—Mount Wilson Well, Dunlop Station, thirty miles west-north-west of Louth, Darling River, North-West N. S. Wales.

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

POLYZOA.

Genus—MEMBRANIPORA, *De Blainville*, 1830.

(Dict. Sci. Nat., 1830, LX, p. 111.)

MEMBRANIPORA? WILSONENSIS,[2] *sp. nov.*

(Pl. VIII, Figs. 11 and 12.)

Sp. Char.—Polyzoarium apparently circular when mature, and incrusting, covering a surface of two and a half inches by one and a half inches. Zoœcia radiating from a common centre, and very regular in their habit of growth, uniform in size and appearance, elongately hexagonal in outline, one millimetre in length by half a millimetre in breadth, the proximal half of the hexagon generally narrower than the distal; boundary walls between the lines of zoœcia very distinct, and slightly zig-zag arising

[1] Goldfuss, Petrefacta Germaniæ, 2d Edit., 1862, pp. 219–220, t. 70, f. 1 and 2.

[2] So named from the locality yielding it, Mt. Wilson Well.

from the outline of the individual cells. The distal transverse edge of each zoœcium bears an opaque circular white spot, reminding one of a fractured avicularium fibre.

Obs.—This is the only representative of the Polyzoa known from the Cretaceous within the boundaries of N. S. Wales, and incrusts the interior of a bivalve, being exposed by the partial removal of the shell of the latter. After consulting my colleague, Mr. Thomas Whitelegge, I have determined to provisionally refer it to *Membranipora*, but in so doing I would call attention to a form I have recently described as *Lunulites abnormalis*.[1]

There is certainly a community of characters between the zoœcia of the two, and although the polyzoaria of both are more or less circular, in the one case the colony is incrusting, of that there can be no doubt, and therefore follows the outline of the body to which it adheres, in the other the colony is cupuliform, and presents every appearance of being free, at anyrate there is no sign of attachment, and the numerous individuals comprising a large hand-specimen are heaped upon and compressed against one another. Until I am in possession of further facts, I think it more advisable to separate the two forms.

Loc.—Mount Wilson Well, Dunlop Station, thirty miles west-north-west of Louth, Darling River, North-West N. S. Wales (*H. Y. L. Brown*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

PELECYPODA.

Genus.—SYNCYCLONEMA, *Meek*, 1864.

(Smithsonian Miscel. Collections, 1864, XII, No. 177, p. 31.)

SYNCYCLONEMA SOCIALIS, *Moore, sp.*

Pecten socialis, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 248, t. 11, f. 9.
Pecten psila, Ten. Woods, Proc. Linn. Soc. N.S. Wales, 1883, VIII, Pt. 2, p. 239.
Pecten socialis, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 446, t. 21, f. 6, 7, and 9.
Pecten, sp. ind., Eth. fil. *Loc. cit.*, t. 21, f. 5.
Pecten æquilineatus, Eth. fil. (*non* Moore), *Loc. cit.*, t. 21, f. 8 (*non* p. 445).
Pecten (Syncyclonema?) socialis, Eth. fil., Bull. Geol. Survey Q'land, 1901, No. 13, p. 13.

Obs.—This remarkable little shell is only known to us as a N.S. Wales fossil from the type specimen of the Rev. J. E. T. Wood's *Pecten psila*,

[1] Bull. Geol. Survey Q'land, 1901, No. 13, p. 11, t. 4, f. 7 and 8.

preserved in the Macleay Museum at the University of Sydney, and one other indifferent example in the Mining and Geological Museum. The identity of *P. psila* and *P. socialis* has already been discussed elsewhere, and need not be further referred to. The matrix, however, on which the little valves of *P. psila* are exposed is of interest, a soft bluish marl, as it is somewhat similar to one met with in the Aramac Well, Queensland, at a depth of two hundred and forty-four feet, and again at the Hergott Springs Bore, Central South Australia, at a depth of one hundred and fifty-five feet.

The specimen in the Mining and Geological Museum is from the Wilcannia District, and is the external impression of a left valve, with a portion of the test adhering. The sculpture is displayed precisely as seen in two of the Queensland figures,[1] and the size of the valve is but little inferior. The sculpture consists of a large number of radiating, apparently flattened costæ, increasing by bifurcation at about one-third of their length from the umbo, with the intervening valleys towards the front of the valve as wide, or perhaps even wider than the costæ. There are also traces of fine close concentric lines, and the posterior ear is also radiate and concentrically marked.

Loc.—Well on Mount Stuart Run, Co. Tongowoko, North-West N.S. Wales (*H. Gilliatt*); and two hundred and fifty miles from Wilcannia, near the Queensland border, North-West N.S. Wales (*R. Von Lendenfeld*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney; and Mining and Geological Museum, Sydney.

Genus—PSEUDAVICULA, *Eth. fil.*, 1892.

(Geol. Pal. Q'land, &c., 1892, p. 449.)

Pseudavicula anomala, *Moore, sp.*

(Pl. VII, Fig. 11; Pl. X, Fig. 4.)

Lucina? anomala, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 450, t. 14, f. 4.
Lucina anomala, Eth. fil., Cat Austr. Foss., 1878, p. 110.
Pseudavicula anomala, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 450, t. 24, f. 6, 8, and 11.

Obs.—Only two very fragmentary examples of this species are extant, a crushed right valve in the Macleay Museum, and portions of test in the

[1] Geol. Pal. Q'land, &c., 1892, t. 21, f. 7 and 9.

Mining and Geological Museum. Neither call for any detailed remarks, but the test fragments display in a beautiful manner the very fine cancellation caused by the close echinating laminæ crossing the fine sharp radiating costæ.

Loc.—Well on Mount Stuart Run, Co. Tongowoko, N.W. New South Wales (*H. Gilliatt*); Mt. Poole District (*J. W. Boultbee*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney; and Mining and Geological Museum, Sydney.

Genus—AUCELLA, *Keyserling*, 1846.

(Reise in das Petschora-Land, 1846, p. 297.)

AUCELLA HUGHENDENENSIS, *Etheridge.*

(Pl. V, Figs. 6 and 7.)

Avicula hughendenensis, Eth., Quart. Journ. Geol. Soc. 1872, XXVIII, p. 346, t. 25, f. 3.

Avicula hughendenensis, Eth. fil., Cat. Austr. Foss., 1878, p. 107.

Aucella Hughendenensis et *A. Liversidgei*, Eth, fil., Journ. R. Soc. N. S. Wales for 1883 (1884), XVIII, p. 90, 2nd pl., (top and lower r. h. figs.).

Aucella hughendenensis, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Aucella hughendenensis, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 460, t. 25, f. 1–6.

Obs.—Two pieces of shale exhibiting several impressions of this characteristic Queensland Cretaceous species are all the specimens known from the similar formation in N. S. Wales, but no further structural details are displayed. The matrix is identical with that of *Syncyclonema socialis*, Moore, sp.

Loc.—Base of Mount King, near Frome's Creek, N.W. New South Wales, (*J. K. Hume*); Mokely Well, Mokely Holding, Co. Tongowoko, in the same district.

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Genus—MACCOYELLA, *Eth. fil.*, 1892.

(Geol. Pal. Q'land, &c., 1892, p. 451.)

MACCOYELLA BARKLYI, *Moore, sp.*

(Pl. II, Figs. 3–5; Pl. III, Figs. 4 and 5; Pl. IV, Figs 3 and 4.)

Avicula Barklyi, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 245, t. 11, f. 1 and 2.

Avicula alata, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 342, t. 20, f. 8.

Avicula Barklyi, Eth. fil., Cat. Austr. Foss., 1878, p. 107.

Monotis Barklyi, Tate, Trans. R. Soc. S. Austr. for 1879–80 (1880), III, pp. 104 and 179.

Avicula Barklyi, Tate, Trans. R. Soc. S. Austr. for 1880–81 (1882), IV, p. 149.

Monotis Barklyi, Tate, Trans. R. Soc. S. Austr. for 1885–86 (1887), IX, p. 53.

Avicula Barklyi (pars), Tate, Proc. Austr. Assoc. Adv. Sci. for 1888–89 (1889), I, p. 230.

Maccoyella Barklyi, Eth. fil, Geol. Pal. Q'land, &c., 1892, p. 455, t. 22, f. 1, 2, 4, and 5, t. 23, f. 1 and 2.

Maccoyella Barklyi, var. *mariæburiensis*, Eth. fil., Geol. Pal. Q'land, &c., 1892, pp. 456 and 563, t. 22, f. 3, t. 42, f. 4–6.

Pseudavicula (?) *alata*, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 563, t. 24, f. 14.

Obs.—Three specimens are amongst the Cretaceous fossils from the western area of our State in the Mining and Geological Museum—one left valve and two right. Another small right valve is also in the Macleay Museum. The left valve exhibits a well marked double adductor scar, each half transversely ridged, and, when the two are united, forming an oblique sub-reniform scar. In both the right valves the scars are entire, broadly oval, and to some extent concentrically ridged. The smaller of the two further shows traces of the line of muscular attachment pits extending from the umbonal region to the adductor scar, already figured in an example[1] of this species from Maryborough, Queensland.

The Upper Cretaceous of the White Cliffs Opal Field has yielded a number of imperfect specimens of this most characteristic species, one at least partially opalised, the others in the white or often ferruginous stained kaolin of the area in question. The method of preservation is not conducive to the retention of structure, and none of the specimens show anatomical details other than those already known.

[1] Geol. Pal. Q'land, &c., 1892, t. 22, f. 4.

Loc.—Momba Run, Darling River (*W. Hogarth*); well, north of Milparinka, North-West N. S. Wales, at a depth of one hundred and fifty feet (*R. von Lendenfeld*); well, eight miles east of Milparinka, in the same district (*Warden J. L. King*); Yandamah Creek, Co. Evelyn, North-West N. S. Wales (*A. Lang*).

Hor.—Lower Cretaceous.

Loc.—White Cliffs Opal Field (*F. G. de V. Gipps* and *A. Mylchreest*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Mining and Geological Museum, Sydney; and Macleay Museum, University of Sydney.

Maccoyella reflecta, *Moore, sp.*

(Pl. I, Figs. 1–5; Pl. II, Fig. 1–2; Pl. III, Figs. 1–3; Pl. IV, Fig. 2.)

Avicula reflecta, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 12, f. 1.

Avicula reflecta, Eth. fil., Cat. Austr. Foss., 1878, p. 107.

Avicula Barklyi, vel. reflecta, var. Gilliatti, Ten. Woods, Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 240, t. 12, f. 4 and 5 (excl f. 6).

Maccoyella reflecta, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 457, t. 23, f. 1–3, 5–7.

Maccoyella reflecta, var. Gilliatti, Eth. fil., *Loc. cit.*, t. 23, f. 10.

Sp. Char.—Shell large, transversely oval, inequilateral; valves plano-convex, or at times concavo-convex, compressed more or less; cardinal margins long. Right valve either flat, slightly concave, or slightly convex in the umbonal region, becoming concave or flat towards the ventral margin; anterior cardinal margin but slightly inclined obliquely, and the posterior cardinal margin straight. Anterior posterior and ventral margins regularly rounded; posterior alation more or less flattened, large; umbo very small, depressed, and nucleus-like. Area very narrow on the anterior, but broad and longer on the posterior side; chondrophoral button strongly developed, with well-marked resilium furrows, a sharp V-shaped chondrophoral socket and equally well-marked chondrophoral dental processes; ossiculum rib-like and strong; hepatic fossa transversely elongate; chondrophore shoe-horn shaped, with resilium furrows; byssal sinus wide and deep. Adductor impression subcentral and oval, concentrically lined.

Left valve convex; anterior cardinal margin oblique, with feeble scobinate lamellæ; posterior cardinal margin long and inwardly bevelled; anterior and ventral margins rounded; posterior alation wing-like, convex in the middle, flattened above, separated from the body of the shell by an oblique longitudinal depression; umbo small, pointed, and slightly overhanging the area, which is wide medianally, and linear posteriorly. Pyriform chondrophore obliquely shoe-horn shaped, large, with concentric resilium furrows; transverse chondrophore long, with parallel resilium furrows; cardinal socket variable, in some individuals well marked, in others not so; hepatic fossa transverse and deep. Adductor impression large, subcentral in position, and subreniform in shape, concentrically lined; cirelet of supplementary pits sometimes present. Seulpture.—In the right valve consists of a very large number of fine radiating costæ, frequently with a finer costa interpolated between every two, crossed by broad laminæ of growth and fine, delicate close imbricating lines. The left valve is covered with similar costæ, but much stronger and coarser, and a like concentric structure, but the primary costæ on the posterior third of the valve proper, and on the posterior alation, rise at their intersection with the broad laminæ of growth into feeble fistulose spines.

Obs.—The shells of *M. reflecta* are of larger size than those of the type species, *M. Barklyi*, the cardinal margin longer posteriorly, whilst the posterior alation of the left valve is raised on a portion of its surface into an oblique lobe, and the scobinate lamellæ of the anterior cardinal margin are much less developed. The costæ of the left valve far outnumber those of *M. Barklyi*, a specimen now before me supporting no less than sixty-two; but the distinction into primary, secondary, and perhaps tertiary, although it exists, is not nearly so marked as in the type species. On the other hand, contrary to my former expressed opinion, the primary costæ support a few fistulose spines. The convexity of the left valve is more than I had formerly conceived, from the imperfect material then before me, and does not materially differ from that of *M. Barklyi*.

A very instructive example in the form of a young shell (Pl. I, Fig. 3) is in the Macleay Museum from the Grey Ranges. The costæ are all very sharp and distinct, and in this case are certainly of three orders, primary, secondary and tertiary. It is to be noted, however, that the tertiary are only developed on the posterior half of the valve In this young condition the fistulose spines are not developed.

The hinge structure of both valves in the present and type species is practically the same, differing only in the degree of development of the various parts.

I find on examining Tenison Woods' types from the Grey Ranges, that the shells termed by him *Avicula Barklyi*, Moore, vel. *reflecta*, Moore, var. *Gilliatti*, Ten. Woods, are all *Maccoyella reflecta* with the exception of one (Fig. 6), and his var. *Gilliatti* is only the right valve of *M. reflecta*, with sharp costæ.

Loc.—Mount Stuart Run, Co. Tongowoko, North-West N. S. Wales (*H. Gilliatt*); well, north of Milparinka, in the same district, at a depth of one hundred and fifty feet (*R. von Leudenfeld*); well on Mount Poole Station, near Milparinka (*A. Lang*); Yandaminta, Co. Evelyn, in the same district (*A. Lang*); well on Dunlop Station, Darling River, in the same district.

Colln.—Macleay Museum, University of Sydney; Mining and Geological Museum, Sydney.

Maccoyella umbonalis, *Moore, sp.*

(Pl. IV, Fig. 1.)

Avicula umbonalis, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 12, f. 2 and 3.

Avicula umbonalis, Eth. fil., Cat. Austr. Foss., 1878, p. 107.

Avicula umbonalis, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Maccoyella umbonalis, Eth. fil., Geol. Pal. Q'land, &c., 1892, pp. 458 and 564, t. 22, f. 6 and 7, t. 23, f. 1.

Maccoyella umbonalis, Eth. fil., Bull. Geol. Survey Q'land, 1901, No. 13, p. 16.

Obs.—*M. umbonalis* is represented by the interior of a fine left valve of considerable convexity, and robustness; it is four and a half inches in both directions. The parts appertaining to the hinge structure were strong; indeed, the general appearance of this valve goes to show that *M. umbonalis* was a much more robust form than any other species of *Maccoyella*. The specimen again exemplifies the tendency of the adductor scar in the left valve to become double or sub-reniform, and, as in the two preceding species, it is concentrically striate. The ripply shell structure, so characteristic of this genus, is also beautifully shown on this interior.

Loc.—Near Milparinka, North-West N. S. Wales (*Archdeacon R. L. King*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Maccoyella corbiensis, *Moore, sp.*

(Pl. I, Figs. 6–10.)

Avicula corbiensis, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 11, f. 7.

Crenatula (?) gibbosa, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 339, t. 19, f. 3.

Avicula Corbiensis, Eth. fil., Cat. Austr. Foss. 1878, p. 107.

Avicula Corbiensis, Tate, Trans. R. Soc. S. Austr. for 1880–81 (1882), IV, p. 149.

? Avicula Barklyi, Moore, vel. *reflecta,* Moore, var *Gilliatti,* Ten. Woods, Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 240, t. 12, f. 6 (excl. f. 4 and 5).

Avicula corbiensis, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Maccoyella corbiensis, Eth. fil., Geol. Pal. Q'land, &c., 1892, pp. 458 and 563, t. 22, f. 8 and 9.

Maccoyella corbiensis, Eth. fil., Bull. Geol. Survey Q'land, 1901, No. 13, p. 17.

Obs.—M. corbiensis is one of the best marked species of the genus, and cannot be mistaken for either of the others.

An examination of the Rev. J. E. Tenison Woods' figures of specimens from the Grey Ranges leaves little doubt that one of his figures of *Avicula Barklyi,* Moore, vel. *reflecta,* Moore, var. *Gilliatti,* Ten. Woods, viz., his Fig. 6, is that of portion of an example of this species. Another unfigured, although remarkably well-preserved specimen is also present.

It is quite evident that the right valve was of a very fragile nature, for in the several instances in which the valves have been seen in apposition, the right is invariably crushed into the hollow of the left.

The adductor scar of the left valve is less reniform in outline than in either *M. Barklyi, M. reflecta,* or *M. umbonalis.*

Loc.—Mount Stuart Run, Co. Tongowoko, North-West N. S. Wales (*H. Gilliatt*); well on Mount Poole Station, near Milparinka (*A. Lang*); Yandaminta, Co. Evelyn, in the same district (*A. Lang*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney; and Macleay Museum, University of Sydney.

The late Prof. R. Tate described a shell from the White Cliffs Opal-field under the name of *Lucina (?) Bonythoni.*[1] From unavoidable causes I have not seen this specimen; but, judging from the figure, and what I know

[1] Trans. R. Soc. S. Austr., 1898, xxii, Pt. 2, p. 77.

of the state of preservation of *Maccoyellæ* from the district in question, I am at present of opinion that it is a *Maccoyella*, and probably not far removed from *M. reflecta*, Moore, sp. If the curved line, possibly regarded by the author as the anterior, be looked on as the posterior cardinal margin, then the radial concavity traversing the shell will be in accordance with a similar depression always seen in specimens of the species mentioned; the sculpture is also quite that of *Maccoyella*.

Genus—INOCERAMUS (*J. Sowerby*, MS., 1814), *Parkinson*, 1819.

(Trans. Geol. Soc., 1819, V, p. 55.)

Obs.—It is a remarkable fact that, notwithstanding the abundance of this genus in the Rolling Downs Formation (Lower Cretaceous) of Central Queensland, it appears to be, with one doubtful exception, quite absent from the similar series made known to us by bores in New South Wales; at any rate, that is the present state of our knowledge.

In our Upper Cretaceous Series, however, as developed in the White Cliffs Opal-field, it is moderately plentiful; but specimens are always in such a wretched state of preservation that it is practically impossible to effect specific identification with any degree of certainty.

The specimens I have seen are always fragmentary, and either mere external impressions in the kaolinised rock of that field, or "casts" from which every fragment of test has been removed. No one specimen is sufficiently entire to enable me to speak with confidence as to its specific identity; but the best preserved (Pl. III, Figs. 6 and 7) are peculiar by their very short dorsal or cardinal margins and insinuation of the dorso-posterior margins. The valves possessed no great degree of convexity, and were ornamented by coarse concentric laminæ of growth.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*Warden W. G. Mackenzie*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Mining and Geological Museum, Sydney.

Genus—MODIOLA, *Lamarck*, 1799.

(Prodrome—Mém. Soc. Hist. Nat. Paris, 1799, p. 87.)

Modiola dunlopensis, *sp. nov.*

(Pl. V, Figs. 4 and 5 ; Pl. VI, Figs. 1 and 2 ; Pl. VII, Fig. 1.)

Sp. Char.—Shell transversely elongate, sub-solenoid, curved, moderately inflated, becoming gradually compressed towards the posterior. Cardinal margins gently arched ; ventral margins convex at the anterior ends and below the umbones, then becoming concave or hollowed to the posterior ventral extremities, where they again swell out. Anterior ends small, gibbous, and the valves apparently gaping ; margins rounded. Posterior extremities compressed and expanded, the valves gaping ; margins rounded below, obliquely rounded above. Body of the shell more or less inflated, the greatest convexity at about half its length, the valves traversed by obtusely rounded arched carinæ, gradually dying away towards the posterior ventral angles, but most prominent at the greatest convexities ; flanks below the carinæ somewhat hollowed out. Umbones sub-terminal, rather flattened. Sculptuer of close concentric laminæ, parallel to the outlines of the ventral margins below the carinæ, describing obtuse angles on passing over the latter, and then retiring above parallel to the oblique portions of the posterior margins.

Obs.—M. dunlopensis is a characteristic shell of both our Upper and Lower Cretaceous. Some years ago the late Mr. C. S. Wilkinson sent to me (when in London) a *Modiola* from the Dunlop Holding well-boring that I then believed to be *M. flagellifera*, Forbes,[1] from the Utatur Group of India It is, however, distinguished from Stoliczka's figures[2] of this shell by a less proportionate length, more arched cardinal margins, much more prominent and gibbous anterior ends, and is altogether a more robust and shorter form proportionately. Very similar features, omitting those of the anterior ends, distinguish our shell from *M. Bainii*, Sharpe,[3] of the South African Mesozoic rocks, in addition to the great prominence of the concentric laminations on crossing the carinæ, which in this instance become rugæ.

From *Modiola plicata*, Goldf.,[4] of the European Upper Jurassic, and its ally *M. sowerbyanus*, D'Orb.,[5] of the Great Oolite, a higher degree of concavity of the ventral margins, more expanded posterior ends, and a less

[1] Wilkinson, Notes Geol. N. S. Wales (Dept. Mines, Sydney), 2nd Edit., 1887, p. 78.
[2] Stoliczka, Cret. Fauna S. India (Pal. Ind.), 1871, III, Pts. 5–8, p. 379, t. 24, f. 2.
[3] Trans. Geol. Soc., 1856, VII (2), Pt. 4, p. 193, t. 22, f. 2 and 3.
[4] Petrefacta Germaniæ, t. 130, f. 12*a* and 12*b*.
[5] *Mytilus*, Morris and Lycett, Mon. Moll. Gt. Oolite, 1853, Pt. 2, p. 36, t. 4, f. 1.

marked sculpture may be accepted as features distinguishing our shell; in addition, the carinæ in *M. plicata* are decidedly sharper and more prominent.

The specific name is derived from the locality.

Loc.—Well, Dunlop Holding, Darling River, North-West N. S. Wales, at a depth of three hundred and eighty-eight feet (*C. S. Wilkinson*); Momba Head Station, Momba Holding, Darling River (*R. Tate*), in the same district.

Hor.—Lower Cretaceous.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*Warden W. G. Mackenzie* and *F. G. de V. Gipps*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Mining and Geological Museum, Sydney; late Prof. R. Tate, Adelaide; and Gipps.

Modiola Tatei, *Eth. fil.*

(Pl. I, Fig. 11.)

Modiola Tatei, Eth. fil., Mem. R. Soc. S. Austr., *in litt.*

Obs.—A small example of this species, composed of common opal, was collected by Mr. F. G. de V. Gipps at the White Cliffs Opal-field. The outline of the shell is elongately mytiloid, and the valves are slightly displaced. The anterior ends are small and projecting, and the posterior diagonal ridges obtusely rounded, but disappearing before the posterior margins are reached. The umbones are inconspicuous and depressed, and the ventral margins straight. Obscure concentric laminæ of growth are visible, but no radii.

Loc.—White Cliffs Opal-field (*F. G. de V. Gipps*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Gipps.

Modiola, *sp. ind.*

(Pl. I, Figs. 12 and 13.)

Obs.—A small form of *Modiola* that it is impossible to name specifically. It is elongately pod-shaped with small projecting anterior ends, but without other determinate characters. It is converted into common opal. This little shell may be the young of *M. dunlopensis*, mihi.

Loc.—White Cliffs Opal-field (*F. G. de V. Gipps*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Gipps.

Genus—MALLETIA, *Desmoulins*, 1832.

(Act. Soc. Linn. Bordeaux, 1832.)

MALLETIA ELONGATA, *Etheridge*.

(Pl. II, Figs. 6–8.)

Leda elongata, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 20, f. 5.
Nuculana elongata, Eth. fil., Cat. Austr. Foss., 1878, p, 111.
Adrana elongata, Eth. fil., Geol. Pal. Q'land., &c., 1892, p. 566, t. 33, f. 8.
Nuculana (? Yoldia) Randsi, Eth. fil., Geol. Pal. Q'land., &c., 1892, p. 566, t. 26, f. 10.
Malletia Randsi, Eth. fil., Bull. Geol. Survey Q'land., 1901, No. 13, p. 25.

Obs.—*Malletia elongata* has been fully described elsewhere, and reasons given for adopting the name. Three imperfect specimens are present in local collections of N. S. Wales fossils. One is in the Macleay Museum, consisting of the united valves, exhibiting the elongate and somewhat upturned posterior ends, the ligament, and fragments of the external shell of a deep brown-red colour.

The other two examples, even in a less perfect state of preservation, are in the Mining and Geological Museum. One is an internal cast of portions of the united valves, and the other part of a left valve, with pieces of the test remaining.

Loc.—Dunlop Holding, Darling River, North-West N. S. Wales (*A. Liversidge*); well-sinking on Mount Stuart East Block, North-West N. S. Wales (*Warden C. King*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney; and Mining and Geological Museum, Sydney.

Genus—TRIGONIA, *Bruguière*, 1789.

(Encycl. Méthod. I, Pl. XIV.)

TRIGONIA NASUTA, *Etheridge*.

(Pl. V., Figs. 1–3.)

Trigonia nasuta, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 339, t. 19, f. 2 and 2a.
Trigonia mesembria, Ten. Woods, Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 237, t. 12, f. 1–3.

Trigonia nasuta, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 567.

Trigonia mesembria, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 170.

? Trigonia sp. ind., Eth. fil., Geol. Pal. Q'land, &c., 1892, t. 26, f. 5.

Sp. Char.—Shell (right valve) deltoid-scaphoid, inclined to prow-shaped, much produced posteriorly, generally rather tumid. Cardinal margin highly arched, short and convex anteriorly, longer and somewhat concave posteriorly, ventral margin well rounded anteriorly, becoming rapidly oblique towards the posterior, with a cinctural inflection, and destitute of denticles. Anterior end fairly well developed, without any marked anterior slope, and the margin rounded; posterior end produced, nasute, traversed by an oblique shallow cincture, widening towards the ventral margin; posterior slope concave, defined from the cincture by three sharp keels, the narrow space between the two anterior flattened, but between the median and the posterior there is a well defined groove. Umbonal region prominent and high, convex, but not markedly tumid; umbo small and depressed; escutcheon long, moderately wide and striate; ligament strong. Cardinal teeth very large and strong, on both sides of the anterior tooth are fifteen transverse denticles, the intervening sulci wider than the denticles; dental crest elevated and sharp; dental support very strong and thick; on the upper and lower aspects of the posterior tooth there are about thirteen denticles. Anterior adductor scar oval, of moderate size, bounded by the thick dental support of the anterior cardinal tooth; posterior adductor scar transversely elongate and shallow; pedal scar not well defined (in specimen); siphonal grooves shallow; pallial impression not defined (in specimen). Interior highly nacreous. Test thick, of two principal layers, the outer the thicker. Sculpture of regular equidistant concentric rugæ, separated by wider valleys, the later concentrically striate, the striæ passing across the cincture to the exclusion of the rugæ; no tubercles (outer shelly layer on the posterior slope not preserved).

Obs.—The advantage gained by a study of the Rev. J. E. T. Woods' type, leads to the opinion that the latter is identical with Mr. Etheridge's *Trigonia nasuta*, notwithstanding the latter was based purely on internal casts alone. I believe the latter to have been a cinctured shell, the anterior edge of the cincture being shown on the umbonal region of Mr. Etheridge's Fig. 2, at the break of the sculpture. I have caused an internal cast of the present valve (Pl. V, Fig. 3) to be prepared, and this will exemplify how closely the internal structure of Woods' *T. mesembria* approaches the natural

casts known as *T. nasuta*, particularly Mr. Etheridge's Fig. 2a. The specimen figured there, is however, much worn away on the anterior side, and towards the posterior ventral margin.

Trigonia nasuta (*T. mesembria*) belongs to that comparatively small section possessing a cincture, such as *T. gibbosa*, J. Sby.,[1] *T. damoniana*, De Loriol,[2] and a few others. In the sudden termination of the concentric rugæ at the cincture it resembles *T. dunscombensis*, Lycett,[3] and *T. damoniana*, De Loriol. The nearest ally is without doubt a South Australian form named by me *T. cinctuta*, but which is less tumid, especially anteriorly, possesses a different form of sculpture, and has an almost square posterior adductor scar, instead of a transversely elongated one.

The fragmentary *Trigonia* lately figured from White Cliffs by Mr. G. Gürich, with a suggested reference to *T. Moorei*, Lycett, is certainly not that species. Lycett's form is an Oolitic fossil from West Australia, with very well-marked features of its own quite distinct from those of either of our Cretaceous *Trigoniæ*. The White Cliffs shell is one of two things, either *T. lineata*, Moore, with very broad concentric rugæ, or an undescribed form, not hitherto met with in our Lower Cretaceous. I am inclined to the former hypothesis, but the specimen figured is too imperfect for satisfactory determination. It must not be forgotten that no perfect example of Moore's *T. lineata* has yet been described.

Loc.—Well-sinking on Mount Stuart Run, Co. Tongowoko, North-West N. S. Wales (*H. Gilliatt*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney.

Genus—CUCULLÆA, *Lamarck*, 1801.

(Syst. Anim. sans Vertèb., 1801, p. 116.)

CUCULLÆA ? GRADATA, *sp. nov.*

(Pl IV, Figs. 5 and 6.)

Sp. Char.—Shell obliquely sub-rhomboidal, much inflated and rugged. Cardinal margin short, straight; ventral margins rounded, oblique, especially towards the anterior. Anterior ends small, slightly projecting; posterior

[1] Min. Con., 1819, III, t. 235-36; Lycett, Mon. Brit. Foss. Trigoniæ, 1874, No. 2, t. 18, f. 1 and 2.
[2] Lycett, Mon. Brit. Foss. Trigoniæ, 1874, No. 2, p. 88, t. 21, f. 2–5.
[3] *Ibid.*, t 40, f. 5.

ends large, margins long and obliquely truncated. Umbones obtuse and apparently flattened from above (not well preserved); flanks of the valves much inflated, particularly in the umbonal region. Posterior diagonal ridges obtuse, but strong; posterior slopes steep and flattened. Surface with numerous gradate, regular and sharp-edged concentric rugæ, each edge with a faint subordinate line below it, the whole becoming less regular towards the ventral margins; the interspaces between the rugæ are concave and show traces of epidermal fibres.

Obs.—I figure this shell in the hope that it may be the means of bringing further specimens to light. I cannot assert with any degree of certainty that it is a member of the Arcacea, as the space that should, in such a case, represent the area is so filled with irremovable matrix, and the apical portions of the umbones so obliterated, that the presence or absence of an area is in doubt. At the same time the obliquely sub-rhomboidal outline reminds one of the group in question, but it is certainly distinct from any shell, so far described in works accessible to me, from the Australian Cretaceous.

Loc.—Mount Poole Station, near Milparinka, North-West N. S. Wales (*A. Lang*).

Hor.—Lower Cretaceous?

Colln.—Mining and Geological Museum, Sydney.

Genus—CYRENOPSIS,[1] *gen. nov.*

Gen. Char.—Shell inflated, subtrigonal to moderately rounded, subinequilateral, always more or less produced posteriorly; margins simple and closed. Two entire, unequal, posteriorly directed cardinal teeth in the right valve, one above the other; a subcentral entire triangular cardinal and an oblique posteriorly directed one above it in the left valve, and two smooth laterals. Umbones contiguous, slightly opisthogyrate; ligament opisthodetic, well developed and variable in length; escutcheon long, rather deep, and inclined to be straight-walled at the sides; lunule absent. Adductor impressions variable in development; pallial sinuses inconspicuous, even if present. Sculpture concentric.

[1] *Cyrena*, and *opsis*, signifying resemblance to.

Obs.—I am led to propose this name for certain of our Cretaceous bivalves that cannot be satisfactorily referred to any genus known to me, but which seem to be allied to both *Cyrena* and *Corbicula*. They possess the general characters of both, except that the cardinal teeth are two instead of three in each valve, whilst the laterals appear to be smooth, as in *Cyrena*, and not striate, as in *Corbicula;* furthermore, the pallial sinuses are inconspicuous as in the former, even if inflections are present at all.

In the left valve there is a more or less central triangular entire cardinal tooth which adapts itself to a large triangular socket in the right valve slightly posterior to the umbonal apex. Above and posterior to this is the second and narrow oblique cardinal which fits into an oblique socket in the right valve. In the latter both cardinals are narrow, oblique, and posteriorly directed.

The adductor impressions in one species are faint, in a second moderately strong.

The number of the cardinal teeth also distinguish it from *Cyrenoides*, Joannis. There is undeniably a very close external resemblance between the shells constituting *Cyrenopsis* and those referred to *Cyrena* and *Corbicula* in the Laramie Formation of North America, with the exception of the dental formula.

Type.—*Mactra* (vel. *Corbicula*) *Meeki*, mihi.

Cyrenopsis opallites,[1] *sp. nov.*

(Pl. V, Figs. 12–17.)

Cyrena (?), n. sp., Gürich, Neues Jahrb., 1901, Beil. Bd., XIV, p. 486, t. 19, f. 5a, 5b, 6.

Sp. Char.—Shell ovate, moderately inflated. Cardinal margins arched; ventral margins well rounded. Anterior ends somewhat flattened with rounded margins; posterior ends slightly produced or nasute, the dorsal posterior margins straight and oblique, the ventral rounded; posterior slopes slightly flattened, narrow, and generally inconspicuous; umbones depressed; escutcheon long, deep, and narrow; ligament short. Articulus arched, longer on the posterior than the anterior; anterior cardinal of the left valve triangular, projecting and slightly oblique, posterior cardinal of the same valve laminar; anterior lateral slightly curved, short, posterior lateral, long distant and

[1] ὀπάλλιος, the opal, and *ites* = *lithos* (contracted), a stone.

straight. Central upper cardinal of the right valve laminar and almost marginal, lower cardinal laminar and oblique; anterior lateral short and curved, posterior lateral long, distant, and straight. Adductor impressions and pallial lines very faint. Sculpture of concentric laminæ, with faint coincident lines.

Obs.—A very characteristic species in the White Cliffs Opal Series, where it occurs with the test frequently converted into both common and precious opal. The general proportions of the valves and degree of inflation readily distinguish it from *C. Meeki*, mihi,[1] on the one hand, and *C.? corrugata*, Tate, sp., on the other.

I shall not be surprised to learn that *Cyprina ? Hudlestoni*, mihi,[2] is a third species of *Cyrenopsis*.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N.S. Wales (*Warden W. C. Rodgerson*, and *F. G. de V. Gipps*); A. Skipworth's Claim, four feet from surface, White Cliffs Opal-field (*C. Cullen*); Smith's Claim, White Cliffs Opal-field (*C. Cullen*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Mining and Geological Museum, Sydney; and *F. G. de V. Gipps*.

Cyrenopsis ? corrugata, *Tate, sp.*

Platopis (*?*) *corrugata*, Tate, Trans. R. Soc. S. Austr., 1898, XXII, Pt. 2, p. 78, figs. p. 79.

Obs.—I have not seen the type of this species, from temporary unavoidable causes, but the many points of outward resemblance the figures bear to *C. Meeki*, mihi, and *C. opallites*, mihi, lead me to place it in close contiguity to these forms, rather than in *Platopis*, Whitfield. *C. ? corrugata* appears to be peculiar in its wide and strongly-marked posterior area, and cuneiform outline, features much more apparent than in either of the above shells.

Loc.—White Cliffs Opal-field (*Tate*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—School of Mines and Industries, Adelaide, S. Australia.

[1] Geol. Pal. Q'land, &c., 1892, t. 26, f. 13–15, t. 27, f. 2 and 3.

[2] *Ibid.*, t. 28, f. 12.

Genus—FISSILUNULA,[1] *gen. nov.*

Gen. Char.—Shell large, ovately-rhomboidal, equivalve, inequilateral, moderately tumid, test thick. Umbones prominent, prosogyrate, inbent at their apices. Anterior ends compressed and produced. Lunule widely excavated, shallow. Articulus much thickened, a projecting blunt cardinal tooth in the right valve slightly posterior to the umbo, with a deep socket on either side, and an oblique posterior cardinal tooth; two blunt cardinal teeth in the left valve fitting into the sockets of the right valve, a deep socket between for the reception of the subcentral cardinal of the right valve, and an oblique posterior cardinal socket; lateral teeth unknown. Ligament amphidetic, parivincular, of two parts, one portion occupying the ligamental grove, the other part occupying a specially modified area beneath the umbones. Adductor scars well marked, particularly the posterior; pedal scars feeble, pallial lines well marked with the feeblest of sinuses and no pallial tongues. Sculpture concentric.

Obs.—I have ventured to propose this new genus for a shell that has always been a stumbling block to others as well as to myself. The history of the type species is as follows:—In 1870 the late Mr. Charles Moore, of Bath (Engl.), described some much mutilated bivalves from the Maranoa River and Wollumbilla, in Queensland, and Gregory Creek, north of Lake Torrens, in South Australia, the largest of which measured "$6\frac{1}{4}$ inches in breadth by $4\frac{1}{2}$ inches in depth"; to this he gave the name of *Cytherea Clarkei*.[2] Two years after Mr. R. Etheridge described imperfect internal casts of a bivalve from the Upper Cretaceous beds of Maryborough, Queensland, as *Cyprina expansa*,[3] collected by the late Mr. Richard Daintree. The figured specimen was somewhat smaller than those described by Mr. Moore. In my "Catalogue"[4] I retained these under the names given by their respective authors, as I had not, at the date of publication of my work, seen examples of either.

No further information seems to have appeared until 1889, when the late Prof. Ralph Tate, in his list of the Cretaceous fossils of the Lake Eyre Basin, united *Cytherea Clarkei*, Moore, and *Cyprina expansa*, Etheridge, in one, adopting the former name. During several years anterior to the appearance

[1] *Fissum*, a split or cleft, and *lunula*, a little moon (lunule).
[2] Quart. Journ. Geol. Soc., 1870, XXVI, p. 250.
[3] *Ibid*, 1872, XXVIII, p. 338.
[4] A Catalogue of Australian Fossils, &c., 1878, p. 108.

of Prof. Tate's paper, I was engaged in the study of the Cretaceous fossils of Queensland, collected under the superintendence of Dr. R. L. Jack, and had independently arrived at the same conclusion. This opinion was subsequently confirmed by an examination of specimens in the collections of Prof. Tate and Mr. H. Y. L. Brown, made in the Lake Eyre Basin. It is remarkable that notwithstanding the large number of specimens in different states of preservation passing through my hands in this way, not one, so far as I can remember, revealed any portion of the hinge structure, at any rate, in a form sufficiently tangible to aid in definite generic determination. Now, however, I have succeeded in exposing the right articulus and contiguous parts of a specimen in the Mining and Geological Museum, more or less perfect, and some very interesting points are revealed, indicating an affinity to *Isocardia*.

The articulus or hinge plate is thick and massive, and exhibits a blunt and nearly horizontal projecting cardinal tooth, *a* (Pl. X, Fig. 2), a little posterior to the umbonal apex, with, on either side, and a little above it, a wide and open cardinal socket, the anterior *b* (Pl. X, Fig. 2), being directly in a line with the umbonal apex, and the concavity of the posterior *c* (Pl. X, Fig. 2), tailing-off obliquely along the hinge plate in a posterior direction *d* (Pl. X, Fig. 2). Above the latter at the terminal end is a sharp oblique thickening *e* (Pl. X, Fig. 2), of the hinge plate. The extreme anterior and posterior ends of the valve are defective, and in consequence the lateral teeth are not preserved.

The details of the left valve hinge plate can be studied by means of a cast from that of the right. There are two cardinal teeth b^1 and c^1 (Pl. XI, Fig. 2), fitting into the sockets with corresponding indicators in the right valve, and a socket a^1, to receive the tooth *a* (Pl. X, Fig. 2), of the latter. Furthermore, an obtuse thickening d^1 (Pl. XI, Fig. 2), is developed to fill the concavity *d* (Pl. X, Fig. 2), and above it is a groove e^1 (Pl. XI, Fig. 2), to receive the sharp oblique thickening *e* (Pl. X, Fig. 2), of the right valve. These features are all that can at present be made of the dental characters of this peculiar shell. Through the imperfect state of the right valve, laterals cannot be distinguished, and even in the best internal cast I have yet seen (Pl. X, Fig. 1), these are not apparent.

The prosogyrate umbo is much bent down at the apex, but hardly inrolled, the ligament groove *h* (Pl. X, Fig. 2), passing directly under it, as in *Isocardia humana*, Linn. (= *I. cor*, Linn. et auct.), and then posteriorly

above the elongated socket *d* (Pl. X, Fig. 2). The shell is therefore opisthodetic. There is also a well marked nymph *f* (Pl. X, Fig. 2), widening in a posterior direction.

The lunule, although not large, comparatively speaking, is a broad, somewhat shallow excavation well in advance of the umbo. Both beneath and slightly anterior to the umbo is an area *m* (Pl. X, Fig. 2), cordate in outline, moderately concave, traversed by two obliquely transverse grooves *l* and *k* (Pl. X, Fig. 2), both superficial, and bounded posteriorly by a third *g* (Pl. X, Fig. 2), deep and of much morphological interest. This third groove proceeds from below the umbonal apex, almost at right angles to the hinge plate direct to the cardinal tooth *a* (Pl. X, Fig. 2), almost bisecting it, passing between and separating the sockets *b* and *c* (Pl. X, Fig. 2), but beneath the umbonal apex it unites with the ligament groove proper, *h* (Pl. X, Fig. 2).

The adductor impressions (Pl. IX, Fig. 1) are well developed, although not so large as one would have expected in a shell of this size and thickness; at any rate, the anterior is not. The latter is situated immediately at the anterior end of the lunule, high upon the compressed anterior end, near the cardinal margin. The posterior scar is proportionately much larger than the anterior.

The pallial line leaves between it and the ventral margin a comparatively narrow inter-marginal area (Pl. IX, Fig. 1), and describes an upwardly directed obtuse curve, immediately below the posterior adductor scar, and in joining the latter leaves the shallowest of sinuses; there is no pallial tongue. I have, so far, detected only feeble pedal scars, for possibly the foot of this mollusc was not highly developed.

Fissilunula, broadly speaking, seems to be an ally of the *Isocardia* group, but generally does not agree with any member of that family known to me. For the purpose of comparison I have inserted outline drawings of the articuli of *Isocardia humana*, Linn. (= *I. cor*, Linn. et auct.), and *I. lunulata*, Nyst., and although there is a general fundamental resemblance between the hinge plates of all three forms, yet, when examined in detail, part by part, many points of difference are observable. The lunules of the Recent and Tertiary species are traversed obliquely by two impressed grooves $o^{2\text{-}3}$, $p^{2\text{-}3}$ (Pl. X, Fig. 3; Pl. XI, Fig. 3), and bounded posteriorly by a long curved groove, $g^{2\text{-}3}$ (Pl. X, Fig. 3; Pl. XI, Fig. 3), immediately under the inrolled umbones. The lunule in *I. lunulata* is much deeper and more marked than in *I. humana*, and

the two grooves in question more forcibly impressed. In *Fissilunula*, $o^{2\text{-}3}$ and $p^{2\text{-}3}$ are hardly, if at all, perceptible, and the third $g^{2\text{-}3}$, becomes much modified. It passes almost transversely across from the umbonal apex, and more or less bisects its single projecting cardinal tooth a, but in *I. humana*, what I believe to be the homologous groove g^2 (Pl. XI, Fig. 3) curves from underneath the inrolled umbo, and follows, but is distinct from, the ligament groove h^2, and reaches the edge of the articulus immediately over the anterior end of the superior horizontal cardinal tooth. I cannot divest myself of the belief that a thin lamina of the ligament in *I. humana* extends beyond the anterior end of the nymph in each valve round and under its inrolled beak, bounded above by the ligament groove h^2 (Pl. XI, Fig. 3), and below by the impression g^2 (Pl. XI, Fig. 3) just described.

To return to the transverse groove g (Pl. X, Fig. 2) in *Fissilunula*, what is its nature, and of what is it significant? Between it and the edge of the nymph a triangular space m (Pl. X, Fig. 2), is described, bearing ridges and grooves coincident with its lower concave margin. This presents precisely the appearance of a space prepared for the reception of an elastic link between the valves, and such I believe to have been its nature. If, therefore, I am correct in my interpretation of the ligamentary structure of *I. humana*, we have the explanation of the space m (Pl. X, Fig. 2), in *Fissilunula*, but carried to a greater degree of development in the latter; the ligament therefore will be amphidetic.

I believe it is also possible to homologise the dental characters of *Fissilunula* on the one hand with those of *I. humana* and *I. lunulata* on the other. It will render a comparison clearer if the articuli of *I. humana* and *I. lunulata* are first compared, and here attention may be at once called to the much tighter spiral, and how much more contracted the parts are in the latter species than in the former. Primarily, it may be noted that the superior and inferior cardinal teeth a^3 and $a^{3\text{-}1}$ (Pl. X, Fig. 3) in *I. lunulata* are more nearly above and below one another, with relation to the apex of the valve, than they are in *I. humana*, a^2 and $a^{2\text{-}1}$ (Pl. XI, Fig. 3); secondly, the socket b^3 (Pl. X, Fig. 3) for the reception of the divided cardinal of the left valve is more contracted, and extends less in an anterior direction in *I. lunulata* than it does in *I. humana*, b^2; thirdly, the nymph f^3 (Pl. X, Fig. 3) is far more contracted from above downwards in the first of these forms than it is in the second, f^2; fourthly, the accessory ligamental groove g^3 (Pl. P, Fig. 3), in *I. lunulata*, appears to be more highly developed and deeper than in *I. humana*,

g^2; fifthly, the posterior end of the lunule in *I. lunulata*, immediately anterior to the groove g^3 (Pl. X, Fig. 3), is far more precipitous or straight walled than in *I. humana*, g^2, and in consequence, when the two valves are held upright, side by side before the observer's eye, there is a much greater exposure of the lunular surface in the former species than in the latter. As further results of this twisting of the spiral in *I. lunulata*, we observe that in the lunule itself the groove p^3 (Pl. X, Fig. 3) instead of cutting the anterior dorsal margin far out, does so at the anterior end of the socket b^3 (Pl. X, Fig. 3); that the posterior lateral tooth is nearer the axial fulcrum in *I. lunulata*, and that the latter is much more median than in *I. humana*.

The tightening of the coil in *Fissilunula* would have the following effect, it appears to me. The cardinal tooth *a* (Pl. X, Fig. 2) would be brought more into the position of a^3 (Pl. X, Fig. 3) in *I. lunulata*, with an accompanying contraction of the supposed ligamental area *m* (Pl. X, Fig 2), and if carried to excess its ultimate reduction to a deep groove only, as seen in the last named species (g^3, Pl. X, Fig. 3). Similarly the socket *b* (Pl. X, Fig. 2) in *Fissilunula* would follow in an upward direction, and probably become the socket of equal alphabetical value, b^3, in *I. lunulata*. To complete the analogy, the lower horizontal tooth $a^{3\text{-}1}$ (Pl. X, Fig. 3) in the latter would then possibly be represented by the thickened lower margin of the articulus in *Fissilunula*, marked a^x (Pl. X, Fig. 2). The close analogy of the remaining characters, such as those of the lunule, extended anterior end, and posterior features of the articulus, are so obvious as not to need comparison.

In glancing over the more important genera of the Isocardiidæ, such as *Veniella*, *Glossocardia*, *Callocardia*, *Cardiodonta*, *Venilicardia*, *Arctica*, &c., I was certainly struck by the appearance of the hinge in the right valve of *Veniella Conradi*, Morton, sp., as figured by Meek,[1] but a little consideration will show that this resemblance is more general than intimate. Indeed, whatever likeness exists in this figure is destroyed by the very different aspect portrayed by Whitfield's illustration[2] of the same valve.

I have examined the structure of the test in *Fissilunula* by means of thin sections prepared for the microscope, and I find that the shell structure in question is entirely laminar, with a complete absence of tubular structure. This accords well with what we know of that in *Isocardia* itself, from the researches of the late Dr. W. B. Carpenter.[3]

[1] Report U. S. Geol. Survey Territories (Hayden's), 1876, IX, p. 148, figs. 9 11.
[2] Mon. U. S. Geol. Survey (Powell's), 1885, IX, t. 19, f. 10.
[3] Brit. Assoc. Report for 1844 (1845), Pt. 2, p. 102.

Fissilunula Clarkei, *Moore, sp.*

(Pl. VI, Fig. 3; Pl. IX, Fig. 1; Pl. X, Figs. 1 and 2; Pl. XI, Figs. 1 and 2.)

Cytherea Clarkei, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 250, t. 13, f. 1.

Cyprina expansa, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 338, t. 19, f. 1.

Cytherea Clarkei, Eth. fil., Cat. Austr. Foss., 1878, p. 108.

Cyprina expansa Eth. fil., Cat. Austr. Foss., 1878, p. 108.

Cytherea Clarkei, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Cyprina Clarkei, Eth. fil., Geol. Pal. Q'land., &c., 1892, pp. 474 and 568, t. 26, f. 18 and 19, t. 27, f. 9 and 11 (? f. 10).

Sp. Chars.—Shell ovate-trapeziform, inflated and very inequilateral. Cardinal margins convex throughout; ventral margins fully rounded. Anterior ends protuberant and compressed; posterior ends at first tumid, but gradually losing their tumidity towards the posterior margins, which are rounded. Umbonal regions high, prominent; anterior slopes short and concave, but without diagonal ridges; posterior slopes long, flattened, and with inconspicuous diagonal ridges. Anterior adductor scars less marked than the posterior, irregularly oval; anterior pedal scars small, immediately above the adductors; posterior adductor scars longitudinally oval. Pallial sinuses remarkably shallow. Sculpture of concentric lamina and intermediate lineations, the edges of the laminæ sometimes enriched with delicate, faint, longitudinal denticulations; on the anterior slopes and ends are transverse puckerings arranged in longitudinally curved lines; general surface shining.

Obs.—These characters are supplementary to those given under the generic description. This widely-distributed shell is the largest and one of the most characteristic species of the Australian Upper and Lower Cretaceous, and is usually met with in the form of ill-preserved internal casts and exfoliated specimens. Whether or no there is more than one species, the present state of our knowledge does not enable me to judge, but that some amount of variation exists amongst the specimens I have seen is undoubted, and it is by no means impossible that this variation may indicate separate specific identity. Indeed the much deeper pallial sinus, as seen in one of my own figures,[1] would appear to bear this out.

Loc.—Wellsinking, at a depth of eighty feet, eight miles east of Milparinka, North-West N. S. Wales (*Warden C. King*); well, at a depth of one hundred and fifty feet, Mount Stuart East Block, about eight miles

[1] Geol. and Pal. Q'land, 1892, t. 27, f. 10.

from Milparinka (*Warden C. King*); well at Mount King East (*A. Croxon*); Yandaminta, Co. Evelyn, North-west N. S. Wales (*A. Lang*); Yandamah Creek, near Milparinka, Co. Evelyn, in the same district (*A. Lang*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum.

Genus—TELLINA, *Linnæus*, 1758.

(Systema, Ed. X, 1758, p. 674.)

Obs.—The external impression (Pl. IX, Fig. 6) of two valves lying in contiguity to one another, but without any trace of hinge characters, is all the evidence we at present possess of this genus during Cretaceous times in N. S. Wales. The posterior ends were sub-truncate, giving to the impressions somewhat the appearance of *Palæomæra mariæburiensis*, Etheridge, sp.[1] The sculpture was fine and concentric with broader similar laminæ.

Loc.—Mount Wilson Well, Dunlop Station, thirty miles west-north-west of Louth, Darling River, North-West N. S. Wales (*H. Y. L. Brown*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Genus—MACROCALLISTA, *Meek*, 1876.

(Report U. S. Geol. Survey Territories, 1876, IX, p. 179.)

Macrocallista (?) plana, *Moore*, sp.

(Pl. V, Figs. 8 and 9.)

Myacites planus, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 12, f. 10.

(*?*) *Tancredia plana*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 13, f. 13.

Myacites, sp. (?), Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 348, t. 25, f. 7.

Tancredia, sp. (?), Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 348, t. 25, f. 8.

Macrocallista plana, Eth. fil., Geol. Pal. Q'land, &c., p. 476, t. 27, f. 6–8.

Tancredia (*?*) *plana*, Eth. fil., Geol. Pal. Q'land, &c., p. 477.

Tancredia (*?*), sp., Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 478.

Obs.—A single specimen only, of this species, partly an internal cast, partly testaceous, is known to me. It is otherwise imperfect, and does not present any additional characters.

[1] *Tellina*, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 20, f. 6, 6*a*.

Examples of this form of shell are frequent in our Cretaceous rocks, but always in a very indifferent state of preservation and without any decipherable hinge characters. They are referred to *Macrocallista* with feelings of considerable doubt and hesitation.

Loc.—Waratta Creek, near Mount Poole, North-West N. S. Wales (*C. S. Wilkinson*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Genus—CORIMYA, *Agassiz*, 1842.

(Études critiques Moll. Foss., 1842, 3e Livr., p. 262.)

CORIMYA ? PRIMULA, *Hudleston*, sp.

(Pl. III, Figs. 8 and 9.)

Thracia primula, Hudleston, Geol. Mag., 1890, VII (3), p. 245, t. 9, f. 7.

Corimya primula, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 481, t. 28, f. 11.

Obs.—Two internal casts are known to me from our Cretaceous deposits. Both are much compressed and devoid of test, and neither absolutely perfect; it was clearly a very delicate and fragile shell. There is evidence of the existence of an escutcheon in both specimens, and in one traces of a ligament, but a pallial impression is quite imperceptible in both. The concentric laminations of the shell are visible on the surfaces of both casts.

Loc.—Mt. Stuart Run, Co. Tongowoko, North-West N. S. Wales (*H. Gilliatt*); Mount Brown District, near Milparinka, North-West N. S. Wales.

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney; and Mining and Geological Museum, Sydney.

Genus—GLYCIMERIS (*Klein*), *Lamarck*, 1799.

(Prodrome—Mém. Soc. Hist. Nat. Paris, 1799, p. 83.)

GLYCIMERIS OBESUS, *sp. nov.*

(Pl. V, Figs. 10 and 11.)

Sp. Char.—Shell rotund, inflated, and inequilateral, gaping at both extremities. Anterior ends small, the margins obliquely rounded; posterior

ends short, the margins sub-truncate above, obliquely rounded below. Umbonal regions much inflated; umbones depressed and contiguous; anterior slopes short, and apparently a little concave; posterior slopes rounded. Sculpture of concentric laminæ.

Obs.—The specimen is partly an internal cast and partly testaceous, but much exfoliated. It is, however, distinct from any of our previously-described forms, judging by its dimensions. In 1892 I figured[1] a *Glycimeris* that I referred to *G. sulcata*, Etheridge. The last named species is, in part at least, a synonym of *G. rugosa*, Moore, sp., but the present fossil is not Moore's species, nor does my figure referred to represent the latter. On the contrary, had we more perfect material to deal with, it is probable that this and the subject of Pl. V, Figs. 10 and 11, would prove to be identical. There are certainly some points of resemblance, although the entire likeness is not as close as it might be, bearing in mind that the Queensland specimen was a crushed individual.

Loc.—Momba Station, Darling River, near Wilcannia, North-West N. S. Wales (*W. Hogarth*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Genus—TEREDINA, *Lamarck*, 1818.

(Hist. Nat. Anim. s. vertèb., 1818, V, p. 438.)

TEREDINA OPALINA, *Gürich.*

Teredina opalina, Gürich, Neues Jahrb., 1901, Beil.-Bd. XIV, p. 488, t. 19, f. 4[a-c].

Obs.—The shells of this species are said by Mr. Gürich to be met with in the opalised wood so common in the White Cliffs beds. They are eleven millimetres in length by ten millimetres in height. I have not seen an example.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales.

Hor.—Upper Cretaceous (White Cliffs Opal Series).

[1] Geol. Pal. Q'land, &c., 1892, t. 27, f. 18.

GASTEROPODA.

Genus—PSEUDAMAURA, *Fischer*, 1885.

(Man. Conch. et Pal. Conch., Fas. 8, 1885, p. 767.)

Obs.—I would tentatively suggest that the two following shells (*Natica variabilis*, Moore, and *Delphinula reflecta*, Moore) may possibly be referable to Fischer's genus *Pseudamaura*, typified by *Natica bulbiformis*, J. de C. Sby., of the South Indian Cretaceous. This and allied forms were referred by Stoliczka to *Ampullina*, Lamk., with these remarks :—" *The shell is characterised by the ventricose form of the last volution and a thick inner lip, either leaving a slight fissure exposed at the termination of the columella, or more frequently covering the entire central portion of the basis.* Many of them very much resemble in their form some species of *Ampullaria* and also of *Euspira*, but they are readily distinguished from them by a greatly thickened inner lip, which is closely attached to the shell. The spire is pointed and more or less elevated, but seems to vary very considerably, even within the limits of one and the same species." [1]

In *Ampullina*, Stoliczka places *Natica bulbiformis*, J. de C. Sby., *N. bulimoides*, D'Orb., and *N. requieana*, D'Orb., all allied species. How closely our Australian shells agree with the above definition the following descriptions will show. I think it not improbable that future researches will ultimately indicate an even closer relationship. It may, however, be noted that *Natica bulbiformis* is placed by two recent American writers (Messrs. C. L. Herrick and D. W. Johnson) in *Amauropsis*. Morch.[2]

Pseudamaura variabilis, *Moore*.

(Pl. II, Figs. 9–12.)

Natica variabilis, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 15.

? Natica lineata, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 342, t. 21, f. 1.

? Natica, sp., Hudleston, Geol. Mag., 1884, I (3), p. 339, t. 11, f. 4.

? Natica variabilis, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Natica variabilis, Eth. fil., Geol. Pal. Q'land, &c., 1892, pp. 485 and 573, t. 31, f. 2 and 3.

Natica variabilis, Gürich, Neues Jahrb., 1901, Beil.-Bd. XIV, p. 489, t. 19, f. 7.

Sp. Char.—Shell broader than high, inflated, spire of three or four volutions, pointed and variable in height, but the body whorl out of all proportion to the older in size; older whorls more or less straight-walled, slightly

[1] Cret. Fauna S. India (Pal. Ind.), 1868, II (Gastropoda), Pts. 7–10, p. 295.
[2] Bull. Sci. Lab. Denison Univ., 1900, XI, Art. 9, t. 42, f. 2–4.

flattened or shoulder-like around the sutures; body whorl large, inflated, rapidly increasing in size. Sutures channeled. Mouth ovate, straight above, narrowed below; outer lip very convex in outline; inner lip straight, a little thickened, but not much reflected. Umbilicus variable, usually slit-like. Surface transversely striate on the body whorl, becoming rugose with age; sculpture of the older whorls unknown.

Obs.—It is only since I examined a number of opalised shells from White Cliffs that I have acquired what I believe to be a true conception of Moore's *Natica variabilis*. Moore described three allied forms of Gasteropods from the Queensland Cretaceous, viz., (*a*) *Natica variabilis*, (*b*) *N. ornatissima*, and (*c*) *Delphinula reflecta*. The second of these (*b*) may be dismissed from present consideration, as it does not seem to be present in the collection, but of the other two Moore said:—

(*a*) "Spire of 3-4 volutions, somewhat depressed; body whorl increasing rapidly in size and extended, *aperture ovate, umbilicus small.*

(*c*) "Whorls 3-4, spire slightly elevated, *volutions separated by an encircling sinus*, body whorl much increased, *aperture circular, with a thick reflected lip.*"

The italics are mine, and the characters so accentuated are the only distinctive features not common to the two.

It may be explained in passing that it has been customary with us to refer all our Cretaceous Naticiform shells with a much inflated and expended body whorl and encircling sinus to *N. variabilis*, Moore, on the grounds that, from the poor state of preservation in which these shells have always been presented to us, the actual mouth was never seen, nor the sculpture preserved. From these causes it is quite probable that I, in common with others, have in the past confused these species one with the other. From White Cliffs we now have two shells generally alike, but with sufficient of the mouths preserved to show that one (*a*) possessed an ovate mouth, small slit-like umbilicus, and a scarcely at all reflected inner lip; and another (*c*) with an ovate mouth, sometimes a similar umbilicus, and a thick greatly reflected inner lip. When these characters are not visible, and in the absence of any differentiating sculpture, it is impossible, I believe, to separate the species. Both possess a spire variable in height, a channeled suture and an increasing

and rapidly expanding body whorl. When the older whorls are at all well preserved they are found to be more or less straight-walled, as in Moore's figures of both. I have, therefore, separated these shells on the lines here laid down.

Two figures, exclusive of the types, are extant, both or either of which may be the present form *P. variabilis*, Moore, sp., or equally so *P. reflecta*, Moore, sp. The first is Mr. R. Etheridge's *Natica lineata* from the Upper Cretaceous of Maryborough, Queensland; the second, a specifically unnamed east from the Lower Cretaceous of the Lake Eyre Basin in South Australia, and figured by Mr. W. H. Hudleston. My former illustrations were simply copies of the type, and the first of those now referred to.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*H. Y. L. Brown* and *F. G. de V. Gipps*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Brown (Adelaide), and Gipps.

Pseudamaura reflecta, *Moore, sp.*

(Pl. II, Figs. 13–16.)

Delphinula reflecta, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 21.

Delphinula reflecta, Eth. fil., Cat. Austr. Foss., 1878, p. 114.

Sp. Char.—Shell broader than high, inflated; spire of three or four volutions, pointed and variable in height, but the body whorl out of all proportion to the older whorls in size; older whorls more or less straight-walled, slightly flattened or shoulder-like around the sutures; body whorl large, inflated, and extended. Sutures channeled. Mouth ovate, straight above, narrowed below; outer lip very convex in outline; inner lip much thickened, reflected, and closely attached to the shell, forming a thick callus; umbilicus, when visible, more or less slit-like. Surface transversely striate on the body whorl, that of the older whorls unknown.

Obs.—I have already explained the confusion that has certainly pre-existed in my own mind, and possibly in the minds of others, as to the identity of this shell. It exemplifies the great inconvenience caused by the

absence of the earlier Australian types from one or other of our local Museums, particularly when those types are described with the meagreness and want of detail noticeable in many of Moore's descriptions of Australian fossils.

This species, it need hardly be pointed out, possesses no characters in common with *Delphinula*.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*J. W. Boultbee, H. Y. L. Brown*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Brown (Adelaide); and Mining and Geological Museum, Sydney.

Genus—VIVIPARUS, *De Montfort*, 1810.

(Conchyl. Syst., 1810, II, p. 247.)

Viviparus? alba-scopularis, *sp. nov.*

(Pl. VII, Figs. 8 and 9.)

Sp. Char.—Shell conical-subovate; spire very moderately elevated with an obtuse apex; whorls four to four and a half, convex and regularly rounded; body whorl more than half the length of the entire shell, rounded on the middle. Aperture broad-ovate, obtusely and slightly sub-angular above, rounded and rather produced below; outer lip rounded; inner lip sufficiently reflexed to conceal the insignificant umbilicus. Sculpture of very fine lines of growth on the posterior whorls, becoming coarser on the body whorl, with traces of a few obscure revolving lines on the latter only.

Obs.—An indefinite shell, with the outward appearance of a *Viviparus*. I have not seen a similar type from any other horizon in our Cretaceous. In form it approaches *V. Leai*, M. and H.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*H. Y. L. Brown*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Brown.

SCAPHOPODA.

Genus—DENTALIUM, *Linnæus*, 1740.

(Syst. Nat., Edit. II, 1740, p. 64.)

DENTALIUM WOLLUMBILLÆNSIS, *Eth. fil.*

Dentalium lineatum, Moore (*non* Guéranger), Quart. Journ. Geol. Soc, 1870, XXVI, p. 256.

Dentalium arcotinum, Tate (*non* Forbes), Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Dentalium wollumbillæensis, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 483.

Obs.—Only one fragment of this little shell has been noted from the New South Wales Cretaceous. It does not display any further points of structure than those already known.

Loc.—Mount Poole District, North-West N. S. Wales (*J. W. Boulibee*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

CEPHALOPODA.

Genus—ANCYLOCERAS, *D'Orbigny*, 1842.

(Pal. Franç. Terr. Cret., 1842, I, p. 491.)

ANCYLOCERAS FLINDERSI, *McCoy*.

(Pl. VIII, Figs. 1–3.)

Ancyloceras Flindersi, McCoy, Ann. Mag. Nat. Hist., 1867, XIX (3), p. 356.

Ancyloceras Flindersi, Eth. fil., Cat. Austr. Foss., 1878, p. 116.

Ancyloceras Flindersi, Eth. fil., Journ. R. Soc. N. S. Wales, 1883, XVII, p. 89, 2nd pl. (up. fig.)

Ancyloceras Flindersi, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 497, t. 33, f. 3, t. 34, f. 5–8.

Obs.—The only example of this little known fossil from the Cretaceous deposits of this State is the portion of a shell now figured, four inches long, and with a diameter of two inches, and a transversely oval section. The venter is convex, the dorsum flattened transversely and concave longitudinally, and

the flanks slightly convex in the former direction. The costæ are coarse, somewhat flattened, and straight on the venter, slightly sigmoidal and sharp on the flanks and lateral dorsal angles, and then become again straight and depressed on the centre of the dorsum. Along each abdominal angle is a row of pronounced blunt tubercles, interrupting the course of every other costa. At a few points two costæ unite at, or to assist in forming a tubercle. The sulci or inter-costal spaces are concave.

The test is much exfoliated, but traces of the nacreous layer still remain. There are no vestiges of either septa, sutures, siphon, or cameræ.

Loc.—Shaft on Croxon's Station, Olive Downs, near Milparinka, North-West N. S. Wales (*Hamilton Pryce*).

Hor.—Lower Cretaceous.

Collu.—Mining and Geological Museum, Sydney.

Genus—BELEMNITES *(G. Agricola)*, D'Orbigny, 1840.

(Pal. Franç. Terr. Crét., 1840, I, p. 37.)

BELEMNITES CANHAMI, *Tate.*

(Pl. VIII, Figs. 8 and 9, ? 10; Pl. IX, Fig. 2.)

Belemnitella diptycha, McCoy (m.s.), Ann. Mag. Nat. Hist., 1867, XIX (3), p. 356.

Belemnitella diptycha, McCoy (m.s.), Ann. Mag. Nat. Hist., 1867, XX (3), p. 196.

Belemnites australis, Phillips in Moore (*non* Hector), Quart. Journ. Geol. Soc., 1870, XXVI, t. 16, f. 3 and 4 (*excl.* f. 1, 2, and 5).

Belemnites Canhami, Tate (m.s.), Trans. Phil. Soc. S. Austr. for 1878–79 (1879), II, p. 7.

Belemnites Canhami, Tate, Trans. R. Soc. S. Austr. for 1879–80 (1880), III, p. 104, t. 4, f. 2*a-e*.

Belemnites Canhami, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Belemnites Canhami, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 490, t. 35, f. 3 and 4, 7–9, 12–14.

Obs.—Several well marked examples of *B. Canhami* have been collected in the western area of this State that accord precisely with Tate's type. Two of these exhibit distinctly the dorso-lateral grooves in their

courses to the apices of the guards, divided by a fine ridge, a feature hardly distinguishable in the type, although visible in another of Tate's South Australian specimens.

I figure an opalised imperfect guard (Pl. VIII, Fig. 10) in which the grooves are not visible with certainty, although I believe the form if clear of matrix, and not fractured (naturally), would approximate to that of *B. Canhami.*

Loc.—Croxon's well, Mount King, Albert District, North-West N. S. Wales (*A. Croxon*); well at a depth of one hundred and fifty feet, two hundred and fifty miles from Wilcannia, near the Queensland Border, North-West N. S. Wales (*R. von Lendenfeld*); well-sinking, at two hundred and fifty feet, thirty miles north of Tibooburra, North-West N. S. Wales (*T. W. Commyns*).

Hor.—Lower Cretaceous.

Loc.—? White Cliffs Opal-field (*F. G. de V. Gipps*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Colln.—Mining and Geological Museum, Sydney; and Gipps.

Belemnites, *sp.*

(Pl. IX, Figs. 3–5.)

Obs.—I am very undecided as to the identity of this Belemnite guard. The distal portion has the appearance of some varieties of *B. Canhami*, Tate, but the proximal strangulated or neck-like portion is a feature departing from that type; when viewed laterally (Fig. 4) the guard is also seen to be somewhat bent. Unfortunately, it is a single specimen, and I think it advisable to wait for further material before making a determination. The alveolus, furthermore, is confined to the end of the strangulated portion, and does not extend into the clavate part of the guard, as in *B. Canhami.*

There is also a very interesting point in connection with the dorso-lateral grooves. They more or less constrict the transverse section at the proximal end, as in *B. Canhami*, and are in the first portion of their course straight, gradually curving on to the ventro-lateral surface at a little less than half the length of the guard, but do not ultimately quite reach the apex.

The groove on the left (*i.e.*, when viewed dorsally), after completing its ventro-lateral course, regains a straight direction, parallel to the longitudinal line of the guard, but that on the right is very different. After performing its ventro-lateral curvature on a level with the left, it again curves and returns to the dorso-lateral surface. At the point of return, however, it comes in contact with a second almost longitudinally straight groove, having a course both above and below the point of contact, but, not extending either to the alveolar margin or the guard apex, it dies out both above and below. In the alveolar region the grooves are very sharp and deep.

Loc.—North of Milparinka, North-West N. S. Wales, at a depth of one hundred and fifty feet (*R. von Lendenfeld*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

Belemnites Kleinii, *Gürich.*

Belemnites Kleinii, Gürich, Neues Jahrb., 1901, Beil.-Bd., XIV, p. 489, t. 19, f. 2a-d, 3.

Obs.—Under this name Mr. Gürich has described a peculiar Belemnite guard, hastate in form and more or less strangulated in the alveolar region. There are two rather short dorso-lateral furrows, disappearing immediately the guard swells out from the strangulated neck to form the club-shaped distal end. There are also two long ventro-lateral furrows, wider apart in the alveolar region than the dorso-lateral are. They at first curve inwards on to the ventral surface, then back again to the sides rather below the greatest transverse diameter of the guard, and are then lost on the lateral surfaces.

The hastate-clavate form of this guard and the constricted dorsal surface in the alveolar region ally this Belemnite to *B. Canhami*, Tate, but this does not possess ventro-lateral grooves. I have not seen examples of this form.

Loc.—White Cliffs Opal-field, near Wilcannia, North-West N. S. Wales (*Gürich*).

Hor.—Upper Cretaceous (White Cliffs Opal Series).

Belemnites oxys, *Ten. Woods.*

(Pl. VI, Figs. 4–6; Pl. VII, Figs. 5–7; Pl. VIII, Figs. 4–6, ? 7.)

Belemnites australis, Tate (*non* Phillips, *nec* Hector), Trans. Phil. Soc. S. Austr. for 1878–79 (1879), II, p. 50.

Second species of Belemnites, Tate, Trans. R. Soc. S. Austr. for 1879–80 (1880), III, p. 105.

Belemnites australis, Ten. Woods, Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 236.

Belemnites oxys, Ten. Woods, Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, p. 237, t. 13, f. 1–3.

Belemnites australis, Tate, Trans. R. Soc. S. Austr. for 1885–86 (1887), IX, p. 53.

Belemnites australis, Tate, Proc. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230.

Belemnites oxys, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 488.

Sp. Char.—Guard hastate, long, tapering to a drawn-out point; dorsum convex throughout; venter convex in the alveolar and flattened in the post-alveolar region. Dorso-lateral grooves sharp and deeply impressed, curving slightly on to the venter near the apical region of the alveolus, then slightly dorsally, and gradually fade out towards the apex of the guard, but do not actually reach the latter. Guard (as preserved) 23 mm. in diameter in both directions at its anterior end, but at the terminations of the deeply cut portions of the dorso-lateral grooves the diameter is 24 mm.; length 147 mm. Alveolus (as preserved) 43 mm. long, with a diameter of 16 mm. at its anterior end.

Obs.—I take this opportunity of refiguring Tenison Wood's type of his *B. oxys* through the courtesy of the Committee of Management of the Macleay Museum.

Tenison Woods remarked: "In the foregoing diagnosis it will be seen that our specimen differs from *B. australis* in its greater length, in tapering to a point, and the slightly different curvature of the lateral groove. It resembles it in all other particulars, especially in the depression by lateral expansion of the post-alveolar region, in the lateral grooves being so sharply cut in the alveolar and post-alveolar region and in the absence of the ventral groove."

The drawn-out posterior end or apex of the guard gives to that of *B. oxys* a very different outline to the guard of *B. australis*, Phill. (restricted), and unless intermediate forms can be intercalated on any future occasion the two names will, in my opinion, have to stand for respective species.

In the type, and another specimen now before me, the dorso-lateral grooves on loosing their sharply impressed condition soon become lost on the surface of the guard, but in a third individual these same grooves are traceable to near the apex, but do not actually reach the latter.

The sutures of the phragmacone as shown in the alveolus of one specimen were 1 mm. apart.

Pl. VIII, Fig. 7, possibly represents the young form of this species.

Loc.—Well-sinking on Mount Stuart Run, Co. Tongowoko, North-West N. S. Wales, at a depth of ninety feet (*H. Gilliatt*); well-sinking eight miles from Mount Brown, in the same district (*C. S. Wilkinson*).

Hor.—Lower Cretaceous.

Colln.—Macleay Museum, University of Sydney; and Mining and Geological Museum, Sydney.

Genus—HAPLOCERAS, *Zittel*, 1870.

(Ceph. Stramberger Schichten, 1870, p. 166.)

Haploceras Daintreei, *Etheridge.*

(Pl. VII, Figs. 2–4.)

Ammonites Daintreei, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 346, t. 24.

Ammonites Daintreei, Eth. fil., Cat. Austr. Foss., 1878, p. 115.

Haploceras Daintreei, Eth. fil., Geol. Pal. Q'land, &c., 1892, p. 495, t. 29, f. 1–3.

Haploceras Daintreei, Eth. fil., Bull. Geol. Survey Q'land, 1901, No. 13, p. 30, t. 1, f. 3, t. 2, f. 6.

Obs.—A single specimen is contained in the Mining and Geological Museum, consisting of half the Ammonite, severed longitudinally. The diameter of this half is five-and-a-half inches. It is almost entirely expoliated, but still retains traces of the sigmoidal costæ, portions of the inner whorls, septa with their folds and saddles, and the siphuncle.

Loc.—Yandamah Creek, near Milparinka, Co. Evelyn, North-West N. S. Wales (*A. Lang*).

Hor.—Lower Cretaceous.

Colln.—Mining and Geological Museum, Sydney.

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APPENDIX I.

CATALOGUE OF THE CRETACEOUS FOSSILS OF AUSTRALIA.

By R. Etheridge, Junr., and W. S. Dun.

The only Catalogue of Australian Fossils, hitherto published, was that compiled by one of us and issued in 1878. In that work no attempt was made to discriminate between the various subdivisions of the Mesozoic Period.

Notwithstanding the work represented by this Catalogue, the views expressed as to generic and specific identification are purely those derived from our present knowledge of the forms, and we are convinced that in many instances considerable modification of terminology will become necessary at some future time.

No attempt has been made to give the localities at which the various fossils occur—these will be found, as a general rule, in the works quoted in the synonymy.

In the second column, references are given only to those works or papers which contain information of Palæontological value; as a rule, no reference is made to lists of localities only.

When species are synonymised it has been considered unnecessary to give generic references.

In the cases of forms described in the present Memoir, the synonymy is not requoted.

Abbreviations:—Lower Cretaceous (the Rolling Downs Series) is shown in the columns by R.D.; the Upper Series (Desert Sandstone) by D.S.

PLANTÆ.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Acrostichum, *Linnæus*, 1737.				
	(Genera Pl., p. 322.)				
A. primordiale, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 10, t. 1, f. 1.	.....	Cret.*	.....	.....
	Alnus, *Tournefort*, 1735.				
	(Linnæus, Syst., Ed. II, Fl. Lapp., 1737, p. 260.)				
A. Muelleri, Ett.	Denks. K. Akad. Wissen. Wien, 1883, XLVII, p. 14, t. 1, f. 15-17; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 22, t. 1, f. 15-17; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 67.	.....	.....	D.S.	.....
	Andromeda, *Linnæus*, 1735.				
	(Syst. Nat., Ed. I.)				
A. australiensis, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 39, t. 3, f. 23.	.....	Cret.	.....	.....

* Considerable uncertainty exists as to the exact stratigraphical position of these plant beds.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Apocynophyllum, *Unger*, 1850. (Gen. Sp. Pl. Foss., p. 433.)				
A. Mackinlayi, Ett.	Denks. K. Akad. Wissen. Wien, 1886, LIII, p. 118, t. 13, f. 7; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 147, t. 13, f. 7; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 69.	.....	.....	D.S.	.....
A. warraghianum, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 31, t. 3, f. 5, 6.	.....	Cret.	.....	.....
	Aralia, *Tournefort*, 1735. (Linnæus, Syst. Nat., Ed. I.)				
A. subformosa, Ett.	Denks. K. Akad. Wissen., Wien, 1895, LXII, p. 40, t. 4, f. 4.	.....	Cret.	.....	.....
	Artocarpidium, *Unger*, 1850. (Denks. K. Akad. Wien, II, p. 254.)				
A. pseudocretaceum, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 22, t. 2, f. 11.	.....	Cret.	.....	.....
	Aulacolepis, *Ettingshausen*, 1895. (Denks. K. Akad. Wissen. Wien, LXII, p. 12.)				
A. rhomboidalis, Ett.	Denks. K. Akad. Wissen., Wien, 1895, LXII, p. 12, t. 1, f. 10.	.....	Cret.	.....	.....
	Banisteriophyllum, *Ettingshausen*, 1886. (Denks. K. Akad. Wissen. Wien, LII, p. 126.)				
B. cretaceum, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 47, t. 4, f. 2.	.....	Cret.	.....	.....
	Bombax, *Linnæus*, 1753. (Sp. Plant., Ed. 1, p. 511.)				
B. Sturtii, Ett.	Denks. K. Akad. Wissen. Wien, 1883, XLVII, p. 138, t. 6, f. 1; Mem. Geol. Surv. N. S. Wales, Pal. 2, 1888, p. 60, t. 6, f. 1; Johnston, Geol. Tas., 1888, t. 45, f. 1; Tate, Rept. Horn Exped., 1896, p. 69.	.....	.....	D.S.	.....
	Banksia, *Linnæus, fil.*, 1781. (Suppl., p. 15.)				
B. elaginocura, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 29, t. 3, f. 8.	.....	Cret.	.....	.....
B. crenata, Ett.	*Op. cit.*, p. 31, t. 3, f. 11	.....	Cret.	.....	.....
B. cretacea, Ett.	*Op. cit.*, p. 28, t. 3, f. 9, 10	.....	Cret.	.....	.....
B. pregrandis, Tate, M. S.	Rept. Horn Exped., 1896, Pt. 3, p. 67	.....	.....	D.S.	.....
B. sublongifolia, Ett.	*Op. cit.*, p. 29, t. 3, f. 7	.....	Cret.	.....	.....
	Carpolithes, *Schlotheim*, 1820. (Petrefactenkunde, p. 418.)				
C. coilophylloides, Ett.	Sitz. K. Akad. Wissen. Wien, 1893, CII, Abth. 1, p. 151.	.....	Cret.	.....	.....
C. complanatus, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 53, t. 4, f. 23.	.....	Cret.	.....	.....
C. fagiformis, Ett.	*Op. cit.*, p. 53, t. 4, f, 22	.....	Cret.	.....	.....
C. hymenospermoides, Ett.	Sitz. K. Akad. Wissen. Wien, 1893, CII, Abth. 1, p. 151.	.....	Cret.	.....	.....
C. semisulcatus, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 53, t. 4, f. 21.	.....	Cret.	.....	.....
C. siliculaformis, Ett.	*Op. cit.*, p. 53, t. 4, f. 20	.....	Cret.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Cassia, *Tournefort*, 1735. (Linnæus, Syst. Nat., Ed. I.)				
C. Etheridgei, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 51, t. 4, f. 16.	.....	Cret.	.....	.....
C. phaseolitoides, Ett.	*Palæocassia*, Ett., Denks. K. Akad. Wissen. Wien, 1887, LIII, p. 189, t. 9, f. 17; Trans. N.Z. Inst., 1890, XXIII, p. 308, t. 32, f. 17; Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 52, t. 4, f. 14.	.....	Cret.	.....	.....
C. præmemnonia, Ett.	*Op. cit.*, p. 51, t. 4, f. 15	.....	Cret.	.....	.....
	Casuarina, *Linnæus*, 1759. (Amœn. Acad., IV, p. 143.)				
C. primæva, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 14, t. 1, f. 16–20.	.....	Cret.	.....	.....
	Ceratopetalum, *Smith*, 1793. (Bot. N. Holland, I, p. 9, t. 3.)				
C. primigenium, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 44, t. 4, f. 5.	.....	Cret.	.....	.....
	Ceratophyllum, *Linnæus*, 1735. (Syst. Nat., Ed. I.)				
C. australe, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 14, t. 1, f. 14, 15.	.....	Cret.	.....	.....
	Cinnamomum, *Tournefort*, 1735. (Linnæus, Syst. Nat., Ed. I.)				
C. Haastii, Ett.	Denks. K. Akad. Wissen., Wien, 1887, LIII p. 185, t. 9, f. 11; Trans. N.Z. Inst., 1890, XXIII, p. 303, t. 32, f. 12; Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 23, t. 3, f. 2, 3.	.....	Cret.	.....	.....
C. primigenium, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 24, t. 3, f. 1.	.....	Cret.	.....	.....
C. sp.	Tate, Rept. Horn Exped., 1896, Pt. 3, p. 67	.....	.....	D.S.	.....
	Conospermites, *Ettingshausen*, 1867. (Sitz. K. Akad. Wissen. Wien, LV, p. 254.)				
C. linearifolius, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 27, t. 3, f. 15.	.....	Cret.	.....	.....
	Cyperacites, *Schimper*, 1870. (Pal. Vég., II, p. 412.)				
C. ambiguus, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 13, t. 1, f. 3.	.....	Cret.	.....	.....
	Debeya, *Miquel*, 1853. (Foss. Pl. Krijt. Limburg.)				
D. affinis, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 46, t. 3, f. 21, 22.	.....	Cret.	.....	.....
D. australiensis, Ett.	*Op. cit.*, p. 45, t. 3, f. 19, 20	.....	Cret.	.....	.....
	Diatomaceæ.				
Remains of Diatomaceæ, *Coscinodiscus* (?) and indeterminable genera.	Dun, Rands, and David, Proc. Linn. Soc. N.S. Wales, 1901, XXVI, Pt. 2, p. 305, t. 18, f. 1, 2, t. 19, f. 1.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
Didymosorus, *Debey and Ettingshausen*, 1859. (Denks. K. K. Akad. Wissen. Wien, XVII, 1 Abth., p 186.)					
D. (?) *gleichenoides*, Oldham and Morris, var.	*Pecopt. (Gleichenites) linearis*, Oldham and Morris, Mem. Geol. Surv. India, II, p. 324; *P. gleichenoides*, Pal. Ind. (Gondwana Flora), 1862, I, Pt. 1, p. 45, t. 25, t. 26, f. 1, 3; *Gleichenites bindrabunensis*, Feistmantel, *op. cit.*, p. 93; *Gleichenia*, Schimper, Traité Pal. Veg., 1869, II, p. 670; *Didymosorus gleichenoides*, Eth. fil., Proc. Linn. Soc. N.S. Wales, 1888, III, Pt. 3, p. 1308, t. 38, f. 3; *id. ibid.*, Geol. Pal. Q'land, 1892, p. 557.	.....	D.S.	.....	.....
Diemenia, *Korth*, 1855. (Nederl. Kruidk. Arch., III.)					
D. lancifolia, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 24, t. 3, f. 4.	.....	Cret.	.....	.....
Diospyros, *Linnæus*, 1737. (Genera, Ed. I., p. 143.)					
D. cretacea, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 39, t. 3, f. 17, 18, 24.	.....	Cret.	.....	.....
Dryophyllum, *Debey*, 1881. (Feuilles Quercif. Aix-la-Chapelle, p. 7.)					
D. Lesquereuxii, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 16, t. 1, f. 30.	.....	Cret.	.....	.....
Elæodendron, *Jacques, fil.*, 1787. (Nov. Acta Helv., I, p. 36.)					
E. priscum, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 48, t. 4, f. 6.	.....	Cret.	.....	.....
Etheridgea, *Ettingshausen*, 1895. (Denks. K. Akad. Wissen. Wien, LXII, p. 46.)					
E. subglobosa, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 46, t. 4, f. 3.	.....	Cret.	.....	.....
Eucalyptus, *L'Heritier*, 1788. (Sertum Anglic., p. 18.)					
E. cretacea, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 48, t. 4, f. 7, 8.	.....	Cret.	.....	.....
E. Daridsoni, Ett.	*Op. cit.*, p. 49, t. 4, f. 10	.....	Cret.	.....	.....
E. Diemenii, Ett.	Denks. K. Akad. Wissen. Wien, 1886, LIII, p. 131, t. 15, f. 9; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 170, t. 15, f. 9; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 69.	.....	.....	D.S.	.....
E. Mitchelli, Ett.	Denks. K. Akad. Wissen. Wien, 1886, LIII, p. 131, t. 15, f. 6, 7; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 169, t. 15, f. 6, 7; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 69.	.....	.....	D.S.	.....
E. oxleyana, Ett.	*Op. cit.*, p. 49, t. 4, f. 9	.....	Cret.	.....	.....
E. scoliophylla, Ett.	*Op. cit.*, p. 49, t. 4, f. 12, 13	.....	Cret.	.....	.....
E. warraghiana, Ett.	*Op. cit.*, p. 50, t. 4, f. 11	.....	Cret.	.....	.....
Fagus, *Tournefort*, 1735. (Linnæus, Syst. Nat. Ed. I.)					
F. leptoneura, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 20, t. 2, f. 9.	.....	Cret.	.....	.....
F. praninnissiana, Ett. ...	*Op. cit.*, p. 21, t. 2, f. 1–5	.....	Cret.	.....	.....
F. praulmifolia, Ett.	*Op. cit.*, p. 21, t. 2, f. 6–8	.....	Cret.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Ficus, *Tournefort*, 1735.				
	(Linnæus, Syst. Nat., Ed. I.)				
F. ipswichiana, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 22, t. 2, f. 12.	.....	Cret.	.....	.....
F. subgæpperti, Shirley	Bull. Geol. Surv. Q'land, 1902, No. 18, p. 7, t. 1.	.....	D.S. (?)	.....	.....
F. (?) *sp. ind.*	Shirley, Bull. Geol. Surv. Q'land, 1902, No. 18, p. 7.	.....	D.S. (?)	.....	.....
	Gervillea, *R. Brown*, 1810.				
	(Trans. Linn. Soc., X, p. 167.)				
G. oxleyana, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 27, t. 3, f. 14.	.....	Cret.	.....	.....
	Glossopteris, *Brongniart*, 1828.				
	(Prodr. Hist. Vég. Foss., p. 54.)				
G. sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 558...	.....	D.S.*	.....	.....
	Glyptostrobus, *Endlicher*, 1847.				
	(Synopsis Conif. p. 69.)				
G. australis, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 12, t. 1, f. 11-13.	.....	Cret.	.....	.....
	Laurus, *Tournefort*, 1737.				
	(Linnæus, Genera, Ed. I., p. 120.)				
L. plutonina, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 26, t. 2, f. 15.	.....	Cret.	.....	.....
	Leguminosites, *Bowerbank*, 1840.				
	(Hist. Foss. Fruits and Seeds London Clay, p. 124.)				
L. pachyphyllus, Ett.	Denks. K. Akad. Wissen., Wien, 1895, LXII, p. 52, t. 4, f. 18.	.....	Cret.	.....	.....
	Magnolia, *Linnæus*, 1735.				
	(Systema, Ed. I.)				
M. Brownii, Ett.	Denks. K. Akad. Wissen. Wien, 1883, XLVII, p. 137, t. 5, f. 7; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 59, t. 5, f. 7; Johnston, Geol. Tas., 1888, t. 43, f. 7; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 69.	.....	.....	D.S.	.....
M. (?) *sp. ind.*	Shirley, Bull. Geol. Surv. Q'land., 1902, No. 18, p. 7.	.....	D.S. (?) E.	.....	.....
	Malpighiastrum, *Unger*, 1850.				
	(Gen. et Sp. Pl. Foss., p. 453.)				
M. cretaceum, Ett.	Denks. K. Akad. Wissen., Wien, 1895, LXII, p. 47, t. 4, f. 1.	.....	Cret.	.....	.....
	Marsilea, *Linnæus*, 1737.				
	(Genera Pl., p. 326.)				
M. (?) ..	Shirley, Bull. Geol. Surv., Q'land., 1902, No. 18, p. 9.	.....	D.S. (?)	.....	.....
	Monimia, *Thou.*, 1804.				
	(Veg. Isles de France, p. 35, t. 9.)				
M. prævestita, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 23, t. 2, f. 13, 14.	.....	Cret.	.....	.....
	Myrica, *Linnæus*, 1735.				
	(Syst. Nat., Ed. I.)				
M. pseudolignitum, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 15, t. 1, f. 4, 5.	.....	Cret.	.....	.....

* Stratigraphical horizon requires confirmation.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Myricæphyllum, *Fontaine*, 1889.				
	(Mon. U.S. Geol. Surv., Potomac Flora, XV, p. 315.)				
M. longepetiolatum, Ett....	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 16, t. 1, f. 29.	.....	Cret.	.. ..	.....
	Myrtophyllum, *Heer*, 1869.				
	(N. Denks. Schw. Gesell., XXIII, Mem. 2, p. 22.)				
M. latifolium, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 50, t. 4, f. 19.	.....	Cret.	.....	.. ...
	Palmæ.				
Palmæ spp. indet.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 13.	.....	Cret.	.....	.....
	Phyllites, *Sternberg*, 1823.				
	(Verstein., I, Fasc. 3, p. 39.)				
P. actinoneuron, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 54, t. 4, f. 24.	.....	Cret.	.....	.....
	Podalyriophyllum, *Ettingshausen*, 1895.				
	(Denks. K. Akad. Wissen. Wien, LXII, p. 51.)				
P. brochidodromum, Ett...	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 51, t. 4, f. 17.	.....	Cret.	.....	.....
	Proteoides, *Heer*, 1866.				
	(Phyll. Crét. Nebraska, p. 17.)				
P. australiensis, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 26, t. 3, f. 16.	... ..	Cret.	.....	.....
	Quercus, *Tournefort*, 1735.				
	(Linnæus, Syst. Nat., Ed. I.)				
Q. colpophylla, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 19, t. 1, f. 22, 23.	.....	Cret.	.....	.....
Q. eucalyptoides, Ett.	*Op. cit.*, p. 18, t. 1, f. 26	.....	Cret.	.....	.....
Q. Greyi, Ett.	Denks. K. Akad. Wissen. Wien, 1886, LIII, p. 99, t. 9, f. 10; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 111, t. 9, f. 10; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 67.	.....	.....	D.S.	.....
Q. nelsonica, Ett.	Denks. K. Akad. Wissen. Wien, 1887, LIII, p. 182, t. 8, f. 10; Trans. N.Z. Inst., 1890, XXIII, p. 297, t. 31, f. 10; Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 17, t. 1, f. 24.	.....	Cret.	.....	.....
Q. pseudochlorophylla, Ett.	*Op. cit.*, 1895, LXII, p. 17, t. 2, f. 10	.....	Cret.	.....	.....
Q. rosmarinifolia, Ett. ...	*Op. cit.*, 1895, LXII, p. 19, t. 1, f. 25	.....	Cret.	.....	.....
Q. Stokesii, Ett.	*Op. cit.*, 1895, LXII, p. 18, t. 1, f. 21	.....	Cret.	.....	.....
Q. Wilkinsoni, Ett.	Denks. K. Akad. Wissen. Wien, 1886, LIII, p. 98, t. 9, f. 16, 16a; Mem. Geol. Surv. N.S. Wales, Pal. 2, 1888, p. 110, t. 9, f. 16, 16a; Tate, Rept. Horn Exped., 1896, Pt. 3, p. 67.	.....	.....	D.S.	.....
Q. sp. ind.	*Op. cit.*, 1895, LXII, p. 20, t. 1, f. 27, 27a, 28...	.. ...	Cret.	... ..	.....
	Rhopalophyllum, *Ettingshausen*, 1888.				
	(Denks. K. Akad. Wissen. Wien, LIV, p. 314.)				
R. australe, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 28, t. 3, f. 12, 13.	.. ...	Cret.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Thuites, *Sternberg*, 1823. (Verstein., I, Fase. 3, p. 39.)				
T. Wilkinsoni, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 11, t. 1, f. 7–9.	.....	Cret.	.....	.....
	Zamites, *Brongniart*, 1828. (Prod. Hist. Vég. Foss., p. 94.)				
Z. ensiformis, Eth. fil.....	In Brown, Rept. Explor. W. part S. Austr. (Fol., Adelaide, 1898), p. 7, t. .	.....	.....	Cret.	.....
	Zosterites, *Brongniart*, 1828. (Prodrome, p. 114.)				
Z. angustifolius, Ett.	Denks. K. Akad. Wissen. Wien, 1895, LXII, p. 13, t. 1, f. 2.	.....	Cret	.....	.....
	FORAMINIFERA.				
	Ammodiscus, *Reuss*, 1861. (Sitz. Akad. K. Wissen. Wien, XLIV (I), p. 365.)				
A. incertus, D'Orb.	Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 5 (*for synonymy*); Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Amphistegina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 304.)				
A. Lessonii, D'Orb. (?) ...	Ann. Sci. Nat., 1826, VII, p. 304, No. 3, t. 17, f. 1–4; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 7, 8 (*for synonymy*); Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365.	.....	.....	R.D.	.....
	Anomalina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 282.)				
A. ammonoides, Reuss ...	*Rosalina*, Reuss, Geogn. Skizze Böhmen, 1844, II, Pt. 1, p. 214; *Anomalina*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 9, 1896, Pt. 2, p. 374 (*for synonymy*); *id.*, Howchin, Trans. R. Soc. S. Austr. for 1892–3, XVII, p. 348; *id.*, *ibid.*, Rept. Austr. Adv. Sci. for 1893 [1894], V, p. 365.	.....	.....	R.D.	... ..
	Bigenerina, *D'Orbigny*, 1826. (Ann. Sci. Nat., p. 261.)				
B. digitata, D'Orb.	*Gemmulina*, D'Orbigny, Ann. Sci. Nat., 1826, VII, p. 262; *Bigenerina*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 18 (*for synonymy*); *id.*, Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 87; *id.*, *ibid.*, *op. cit.*, 1892–93, XVII, Pt. 2, p. 349; *id.*, *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D	.....
B. nodosaria, D'Orb	Ann. Sci. Nat., 1826, VII, p. 261, No. 1, t. 11, f. 9–11; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 18 (*for synonymy*); Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 87; *ibid.*, *op. cit.*, 1892–93, XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	R.D.	... ..	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Cristellaria, *Lamarck*, 1812.				
	(Extr. Cours. Zool., p. 122.)				
C. acutiauricularis, Ficht. and Moll., *var. longicostata*, Moore.	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 242; Eth. fil., Cat. Austr. Foss., 1878, p. 102; *ibid.*, Geol. Pal. Q'land., 1892, p. 435; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], p. 364.	.....	R.D.	.....	.....
C. cassis, Fichtel and Moll.	*Nautilus*, Test. Micr., 1798, p. 95, t. 17, 18, *a c*; *Cristellaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 51, 209 (*for synonymy*); *id.*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
C. crepidula, Fichtel and Moll.	*Nautilus*, Test. Micr., 1798, p. 107, t. 19, f. *g–i*; *Cristellaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 53, 54, 209 (*for synonymy*); *id.*, Howchin, Trans. R. Soc. S. Austr. for 1892–93, XVII, Pt. 2, p. 348; *id.*, *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
C. cultrata, Montfort, *var. radiata*, Moore.	*Op. et loc. cit. supra*	.....	R.D.	.....	.....
C. gibba, D'Orbigny..... ..	Ann. Sci. Nat., 1826, VII, p. 292, No. 17; Sherborn, Index Gen. Sp. Foram., 1893, Pt. I, p. 57 (*for synonymy*); Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 91; *ibid.*, *op. cit.*, 1892–93, XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
C. rotulata, Lamarck	*Lenticulites*, Lamarck, Ann. Mus., 1804, V, p. 188, No. 3; *Cristellaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 68, 69, 179 (*for synonymy*); Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 90; *ibid.*, Rept. Austr. Assoc. Adv. Sci., 1894 [1895], V, p. 364.	.....	.....	R.D.	.....
C. schlumbachi, Reuss.....	Sitz. K. Akad. Wissen. Wien, 1862 [1863], XLVI (1), p. 65, t. 6, f. 14 *a*, *b*, 15 *a*, *b*; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 70; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Discorbina, *Parker and Jones*, 1862.				
	(Introd. Foram., 1862, p. 203).				
D. vilardeboana, D'Orb...	*Rosalina*, Voy. Amer. Merid., 1839, V, Pt. 5, Foram., p. 44, t. 6, f. 13–15; *Discorbina*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 101 (*for synonymy*); *id.*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365.	.....	.....	R.D.	.....
	Endothyra, *Phillips*, 1846.				
	(Rept. Proc. Geol. Poly. Soc. W. R. Yorkshire, p. 277.)				
E. Bowmani, Phillips (?)...	*Op. cit. supra*, p. 277, t. 7, f. 1; Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 87; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 103 (*for synonymy*).	.....	.....	R.D.	.....
	Frondicularia, *Defrance*, 1824.				
	(Dict. Sci. Nat., XXII, p. 178.)				
F. complanata, Defrance...	Dict. Sci. Nat., 1824, XXXII, p. 178, Atlas, Conch., t. 14, f. 4; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 116; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
F. sp. ind.	Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Gaudryina, *D'Orbigny*, 1839.				
	(De la Sagra, Hist. Phys. Cuba, Foraminifères, p. 109.)				
G. pupoides, D'Orbigny ...	Mém. Soc. Geol. France, 1840, IV (1), p. 44, t. 4, f. 22–24; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 129 (*for synonymy*); Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 88; *ibid., op. cit.*, 1892–93, XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
G. scabra, Brady	"Challenger" Rept., Zool., 1884, p. 381, t. 46, f. 7*a–b*; Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 89; *ibid., op. cit.*, 1892–93, XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
G. siphonella, Reuss.	Zeits. deutsch. Geol. Gesell., 1851, III, p. 78, t. 5, f. 40–42; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 129 (*for synonymy*); Howchin, Trans. R. Soc. S. Austr. for 1892–93, XVII, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Haplophragmium, *Reuss*, 1860.				
	(Sitz. K. Akad. Wiss. Wien, XL, p. 218.)				
H. æquale, Roemer	Reuss, Sitz. K. Akad. Wiss. Wien., 1860, XL, p. 218, t. 11, f. 2*a*, *b*, 3*a*, *b*; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 152 (*for synonymy*).	.....	.....	R.D.	.....
H. agglutinans, D'Orbigny	Brady, "Challenger" Rept., Zool., 1884, p. 301, t. 32, f. 19–26; Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1885], VIII, Pt. 2, p. 85; *ibid.*, for 1892–93 [1893], XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 152.	.....	.....	R.D.	.....
H. agglutinans, var. rectum, Brady.	*H. rectum*, Brady, Carb. Foram. (Pal. Soc.), 1876, XXX, p. 66, t. 8, f. 8–9; *H. agglutinans, var. rectum*, Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1885], VIII, Pt. 2, p. 85.	.....	.....	R.D.	.....
H. australis, Howchin ...	*H. sp.*, Trans. R. Soc. S. Austr. for 1884–85 [1885], VIII, Pt. 2, p. 86; *H. australis*, *ibid.*, for 1892–93 [1893], XVII, Pt. 2, p. 348; *id., ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; *id., ibid.*, Trans. R. Soc. S. Austr. for 1894–95, XIX, Pt. 2, p. 198, t. 10, f. 12–13.	.....	.....	R.D.	.....
H. canariense, D'Orbigny..	Bütschli in Bronn, Klassen Thierreichs, 1880, p. 192, t. 5, f. 17; *H.* (?), Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1885], VIII, Pt. 2, p. 86; *id., ibid.*, for 1892–93 [1893], XVII, Pt. 2, p. 348; *id., ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 153.	.....	.....	R.D.	.....
H. glomeratum, Brady ...	Wright, Proc. Belfast Field Club, 1880–81 (App.), p. 180, t. 8, f. 1–1a; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 153 (*for synonymy*).	.....	.....	R.D.	.....
	Hyperammina, *Brady*, 1878.				
	(Ann. Mag. Nat. Hist. I (5), p. 433.)				
H. vagans, Brady.....	Quart. Journ. Micro. Sci., 1879, XIX, p. 33, t. 5, f. 3; Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1886], VIII, Pt. 2, p. 83; *ibid.*, for 1892–93 [1893], XVII, Pt. 2, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 363; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 160 (*for synonymy*).	.....	.....	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Lagena, *Walker*, 1784. (Walker, Test. Min. Rar., p. 3.)				
L. levis, Montf.	Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 167 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Lingulina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 256.)				
L. carinata, D'Orbigny ...	Ann. Sci. Nat., 1826, VII, p. 257, No. 1 ; Howchin, Trans. R. Soc. S. Austr., 1884–85, VIII, p. 90 ; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 179 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Marginulina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 258.)				
M. costata, Batsch	*Nautilus*, Batsch, Conch. Seesands, 1791, t. 1, f. 1, *a–g* ; *Marginulina*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 188 (*for synonymy*) ; *id.*, Howchin, Trans. R. Soc. S. Austr. for 1892–93, XVII, p. 348 ; *id.*, *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	. ....	.....	.. ...
M. glabra, D'Orbigny.....	Ann. Sci. Nat., 1826, VII, p. 259, No. 6 ; Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 90 ; *ibid.*, *op. cit.*, 1892–93, XVII, Pt. 2, p. 348 ; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 190 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
	Nodosaria, *Lamarck*, 1812. (Extr. Cours. Zool., p. 121.)				
N. communis, D'Orb.	*Dentalina*, D'Orbigny, Mem. Soc. Géol. Fr., 1840, IV, p. 13, t. 1, f. 4 ; Moore, Quart. Journ. Geol. Soc , 1870, XXVI, p. 239 ; Eth. fil., Cat. Austr. Foss., 1878, p. 103 ; *ibid.*, Geol. Pal. Q'land., 1892, p. 435 ; *Nodosaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 220 ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	R.D.	.....	.. ...
N. farcimen, Sold.	*Orthoceras*, Soldani, Testac., 1798, II, p. 35, t. 10 *h–m* ; *Nodosaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 222 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	... ..
N. pauperata, D Orb.	*Dentalina*, D'Orbigny, Foram. Foss. Vienne, 1846, p. 46, t. 1, f. 57, 58 ; *Nodosaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 90, 230 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
N. radicula, Linnæus	*Nautilus*, Syst. Nat., ed. X, 1758, p. 710 ; *Nodosaria*, Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 91 ; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 213, 231, 232 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
N. soluta, Reuss.	*Dentalina*, Reuss, Zeits. deutsch. Geol. Gesell., 1851, III, p. 60, t. 3, f. 4 ; *Nodosaria*, Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, pp. 92, 235 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....
N. subtertenuata, Schwager	Novara Exped., Geol. II, 1866, p. 235, t. 6, f. 74 ; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 236 (*for synonymy*) ; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364.	.....	.....	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
Nodosinella, *Brady*, 1876. (Mon. Carb. Foram., Pal. Soc., 1876, XXX, p. 102.)					
N. (?)	Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 86.	.....	.....	R.D.	.....
Patellina, *Williamson*, 1858. (Recent Brit. Foram., p. 46.)					
P. Jonesi, Howchin	Rept. Austr. Assoc. Adv. Sci., 1893 [1894], V, p. 365; Trans. R. Soc. S. Austr. for 1894–5 [1895], XIX, Pt. 2, 199, t. 10, f. 9–11.	.....	.....	R.D.	.....
Placopsilina, *D'Orbigny*, 1847. (Prodr. Pal., 1850, II, p. 96.)					
P. cenomana, D'Orbigny..	Prodr. Pal., 1850, II, p. 185, No. 758; Howchin, Trans. R. Soc. S. Austr. for 1884–5 [1885], VIII, Pt. 2, p. 89; *id.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1895, Pt. 2, p. 300 (*for synonymy*).	.....	.....	R.D.	.....
Planispirina, *Sequenza*, 1880. (Atti. R. Accad. Lincei, VI (3), p. 310.)					
P. celata, Costa	*Spiroloculina*, Costa, Mem. Accad. Sci. Napoli, 1855 [1857], II, p. 126, t. 1, f. 14; *id.*, Howchin, Trans. R. Soc. S. Austr. for 1892–93, XVII, Pt. 2, p. 348; *Sigmoilina*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; *Planispirina*, Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, pp. 301, 416 (*for synonymy*).	.....	....	R.D.	.....
Polymorphina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 265.)					
P. angusta, Egger	*Globulina*, N. Jahrb. Min., p. 299, t. 13, f. 13–15; P. Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 319 (*for synonymy*).	.....	.....	R.D.	.....
P. gibba, D'Orbigny	*Globulina*, Ann. Sci. Nat., 1826, VII, p. 266, No. 29; *Polymorphina*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 239; *id.*, Eth. fil., Geol. Pal., Q'land., 1892, p. 436; *id.*, *ibid.*, Cat. Austr. Foss., 1878, p. 104; *id.*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365.	.....	R.D.	R.D.	.....
P. lactea, Walker and Jacob.	Brady, Mon. Crag Foram., Pal. Soc., 1866, XIX, t. 1, f. 48; Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 239; Eth. fil., Geol. Pal. Q'land., 1892, p. 434; Howchin, Trans. R. Soc. S. Austr. for 1884–5, VIII, p. 91; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 325.	.....	R.D.	R.D.	.....
P. rotundata, Bornemann	*Guttulina*, Zeits. deuts. Geol. Gesell., 1855, VII, p. 346, t. 18, f. 3; *Polymorphina*, Brady, Parker, and Jones, Trans. Linn. Soc., 1870, XXVII, p. 234, t. 40, f. 19 *a–e*, figs. *k*, *l*, *m*; *id.*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; *id.*, Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 328 (*for synonymy*).	.....	.....	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Pulvinulina, *Parker and Jones*, 1862.				
	(Carpenter, Parker and Jones, Introd. Foram., p. 201.)				
P. elegans, D'Orb.	*Rotalia*, D'Orbigny, Ann. Sci. Nat., 1826, VII, p. 272, No. 6; *Pulvinulina*; Howchin, Trans. R. Soc. S. Austr. for 1884–85, VIII, p. 91; *id.*,*ibid.*, *op. cit.*, 1892–93, XVII, p. 348; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram, 1896, Pt. 2, pp. 343, 383 (*for synonymy*).	.....	... ..	R.D.	.....
	Reophax, *Montfort*, 1808.				
	(Conch. Syst., I, p. 331.)				
R ampullacea, Brady.....	Quart. Journ. Micro. Sci., 1881, XXI, p. 49; Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1885], VIII, Pt. 2, p. 85; *id.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 363; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 362 (*for synonymy*).	.....	.....	R.D.	.. ...
R. difflugiformis, Brady ...	Quart. Journ. Micro. Sci., 1879, XIX, p. 51, t. 4, f. 3 *a*, *b*; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 363; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 362 (*for synonymy*).	.....	.....	R.D.	.....
R. fusiformis, Williamson.	Brady, "Challenger" Rept. Zool., 1884, p. 290, t. 30, f. 7–11; Howchin, Trans. R. Soc. S. Austr. for 1884–5 [1885], VIII, Pt. 2, p. 85; *id.*, *ibid.*, for 1892–3 [1893], XVII, Pt. 2, p. 348; *id.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 363; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 362.	.....	.....	R.D.	.....
R. scorpiurus, Montfort ...	Conch. Syst., 1808, I, p. 331; Howchin, Trans. R. Soc. S. Austr. for 1884–5 [1885], VII, Pt. 2, p. 84; Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 363; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 363 (*for synonymy*).	.....	.....	R.D.	.....
	Sigmoilina, *Schlumberger*, 1887.				
S. celata, Costa	*Vide* Planispirina celata	.....	.....	.....	.....
	Spirillina, *Ehrenberg*, 1841.				
	(Abhandl. K. Akad. Wissen. Berlin, p. 422.)				
S. margaritifera, Williamson.	Recent Brit. Foram., 1858, p. 93, t. 7, f. 204; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 411 (*for synonymy*).	.....	.....	R.D.	.. ...
S. (?) vivipara, Ehrenberg	Abhandl. K. Akad. Wissen. Berlin, 1841, p. 422, t. 3, 7, f. 41; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 412 (*for synonymy*).	.....	.....	R.D.	.....
	Thurammina, *Brady*, 1879.				
	(Quart. Journ. Micro. Sci., XIX, p. 45.)				
T. compressa, Brady	Quart. Journ. Micro. Sci., 1879, XIX, p. 46, t. 5, f. 9; Howchin, Trans. R. Soc. S. Austr. for 1892–3 [1893], XVII, Pt. 2, p. 348; *id.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 441 (*for synonymy*).	.....	.....	R.D.	.. ..
T. papillata, Brady	Quart. Journ. Micro. Sci., 1879, XIX, p. 45, t. 5, f. 4–8; (?) Howchin, Trans. R. Soc. S. Austr. for 1884–85 [1886], VIII, Pt. 2, p. 84; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 441 (*for synonymy*).	.....	.....	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Truncatulina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 279.)				
T. lobatula	Foram. Foss. Vienne, 1846, p. 168, t. 9, f. 18 23; *Planorbulina*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 239; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 103; *id., ibid.*, Geol. Pal. Q'land., 1892, p. 436; *Truncatulina*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 456 (*for synonymy*).	.....	R.D.	R.D.	.....
T. ungeriana, D'Orb.	*Rotalina*, D'Orbigny, Foram. Foss. Vienne, 1846, p. 157, t. 8, f. 16-18; *Planorbulina*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 239; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 104; *id. ibid.*, Geol. Pal. Q'land., 1892, p. 436; *Truncatulina*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 365; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, pp. 400, 459 (*for synonymy*).	.....	R.D.	.....	.....
	Vaginulina, *D'Orbigny*, 1826. (Ann. Sci. Nat., VII, p. 257.)				
V. legumen, Linnæus	*Nautilus*, Linnæus, Syst. Nat., 1758, Ed. X, p. 77; *Vaginulina*, Howchin, Trans. R. Soc. S. Austr. for 1884-85, VIII, p. 91; *ibid., op. cit.* for 1892-93, XVII, p. 349; *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 211, 1896, Pt. 2, pp. 467, 468 (*for synonymy*).	.....	.....	R.D.	.....
V. linearis, Montagu	*Nautilus*, Montagu, Testac. Brit., Suppl., 1808, p. 87, t. 30, f. 9; *Vaginulina*, Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 211, Pt. 2, p. 468 (*for synonymy*).	.....	.....	R.D.	.....
V. striata, D'Orb.	D'Orbigny, Ann. Sci. Nat., 1826, VII, p. 257, No. 3; Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 239; Eth. fil., Cat. Austr. Foss., 1878, p. 104; *ibid.*, Geol. Pal. Q'land., 1892, p. 435; Howchin, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1896, Pt. 2, p. 469.	.....	R.D.	.....	.....
	Verneuilina, *D'Orbigny*, 1840. (Mém. Soc. Géol. France, IV (1), p. 39.)				
V. polystropha, Reuss	*Bulimina*, Reuss, Verstein. Böhm. Kreide, 1845-46, II, p. 109, t. 24, f. 53; *Verneuilina*, Howchin, Trans. R. Soc. S. Austr., 1884-85, VIII, p. 89; *id., ibid., op. cit.*, 1892-93, XVII, Pt. 2, p. 348; *id., ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1893 [1894], V, p. 364; Sherborn, Index Gen. Sp. Foram., 1893, Pt. 1, p. 32, Pt. 2, p. 474 (*for synonymy*).	.....	.....	R.D.	.....
	RADIOLARIA.				
	Amphibrachium, *Haeckel*, 1881. (Prodr., p. 460.)				
A. crassum, Hinde	Quart. Journ. Geol. Soc., 1893, XLIX, p. 223, t. 5, f. 9.	.....	.....	.....	D.S.
A. fragile, Hinde.....	*Op. cit.*, p. 223, t. 5, f. 11.	.....	.....	.....	D.S.
A. truncatum, Hinde.	*Op. cit.*, p. 223, t. 5, f. 10.	.....	.....	.....	D.S.
A., sp.	Hinde, *op. cit.*, p. 224, t. 5, f. 13.	.....	.....	.....	D.S.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Astrophacus, *Haeckel*, 1881.				
	(Prodr., p. 457.)				
A. (?)	Dun, Rands, and David, Procs. Linn. Soc. N.S. Wales, 1901, Pt. 2, p. 307, t. 18, f. 3, t. 19, f. 3.	.....	R.D.	.....	.....
A., sp. (*a*)	Hinde, Quart. Journ. Geol. Soc., 1893, XLIX, p. 223, t. 5, f. 4, 5.	.....	.....	.....	D.S.
A., sp. (*b*)	Hinde, Quart Journ. Geol. Soc., 1893, XLIX, p. 223, t. 5, f. 3.	.....	.....	.....	D.S.
	Cenellipsis, *Haeckel*, 1887.				
	("Challenger" Rept., Zool., XVIII, Pt. 1, p. 290.)				
C., sp. ind....	Hinde, Quart. Journ. Geol. Soc., 1893, XLIX, p. 223, t. 5, f. 1.	.....	.....	.....	D.S.
	Dictyomitra, *Zittel*, 1876.				
	(Zeits. deuts. Geol. Gesell., p. 80.)				
D. australis, Hinde.....	Quart. Journ. Geol. Soc., 1893, XLIX, p. 224, t. 5, f. 14.	.....	.....	.....	D.S.
D. triangularis, Hinde ...	*Op. cit.*, p. 224, t. 5, f. 16.	... ..	.....	.. ...	D.S.
	Lithocampe, *Ehrenberg*, 1838.				
	(Abhandl. Berlin Akad., p. 128.)				
L. fusiformis, Hinde	Quart. Journ. Geol. Soc., 1893, XLIX, p. 225, t. 5, f. 16.	.....	.....	.....	D.S.
	Lithocyclia, *Ehrenberg*, 1847.				
	(Monatsb. Berlin Akad., p. 54.)				
L. exilis, Hinde	Quart. Journ. Geol. Soc., 1893, XLIX, p. 223, t. 5, f. 8.	.....	.....	.....	D.S.
	Spongodiscus, *Ehrenberg*, 1854.				
	(Monatsb. Berlin Akad., p. 237.)				
S. expansus, Hinde	Quart. Journ. Geol. Soc., 1893, XLIX, p. 224, t. 5, f. 6.	.....	.....	.....	D.S.
S., sp.	Hinde, *op. cit.*, p. 224, t. 5, f. 7	... ..	.....	.....	D.S.
S., sp.	Hinde, *op. cit.*, p. 224, t. 5, f. 2	.....	.....	.....	D.S.
	Spongolena, *Haeckel*, 1887.				
	("Challenger" Rept., Zool., XVIII, Pt. 1, p. 587.)				
S. symmetrica, Hinde	Quart. Journ. Geol. Soc., 1893, XLIX, p. 224, t. 5, f. 12.	.....	. ...	.....	D.S.
	Stichocapsa, *Haeckel*, 1881.				
	(Prodr., p. 439.)				
S. pingius, Hinde.....	Quart. Journ. Geol. Soc,, 1893, XLIX, p. 225, t. 5, f. 17.	.....	.....	.....	D.S.
S. chrysalis, Hinde	*Op. cit.*, p. 225, t. 5, f. 18	.....	.....	.....	D.S.
	Tintinnus, *Schrank*, 1803.				
	(Fauna Boica.)				
T., sp. ind......	Dun, Rands, and David, Proc. Linn. Soc. N. S. Wales, 1901, XXVI, Pt. 2, p. 307, t. 19, f. 2.	.....	R.D.	.....	.....
	SPONGIDA.				
	Purisiphonia, *Bowerbank*, 1869.				
	(Proc. Zool. Soc., p. 342 ; Hinde, in Jack and Etheridge, Geol. Pal. Q'land., 1892, p. 436.)				
P. Clarkei, Bowerbank ...	Proc. Zool. Soc., 1869, p. 342 : Moore, Quart Journ. Geol. Soc., 1870, XXVI, Pt. 2, pp. 235, 240, t. 17, f. 1 ; Hinde, in Jack and Eth. fil., Geol. Pal., Q'land., 1892, p. 438, t. 19 ; Eth. fil , Bull. Geol. Surv. Q'land, 1901, No. 13, p. 5.	.....	R.D.	.....	.. ...

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
CŒLENTERATA.					
Coral.					
[Coral from near Charlotte Waters.]	Tate and Watt, Rept. Horn Exped., 1896, Pt. 3, p. 63.	.....	.....	R.D.	.....
ECHINODERMATA.					
Isocrinus, *Von Meyer*, 1837.					
(Mus. Senkenberg, p. 251.)					
I. australis, Moore	*Pentacrinus*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 243, t. 17, f. 3, t. 18, f. 1; *Isocrinus*, Eth. fil., Bull. Geol. Survey Q'land, 1901, No. 13, p. 6, t. 1, f. 4, t, 3, f. 1–3; *id.*, Mem. Geol. Survey N.S. Wales, Pal., No. 11, 1902, p. 10, t. 4, f. 7–10 (*for synonymy*).	D.S.	R.D.	.....	.....
Micraster, *Agassiz*, 1834.					
(Prodr. Mon. Rad. Echinoid.)					
M. Sweeti, Eth. fil.	Geol. Pal. Q'land., 1892, p. 559	.....	D.S.	.....	.....
Pentacrinus, *Miller.*					
P. australis, Moore	*Vide* Isocrinus australis	.....	.....	.....	.....
VERMES.					
Serpula, *Linnæus*, 1758.					
(Systema, Ed. X, p. 786.)					
S. intestinalis, Phillips ...	Illustr. Geol. Yorkshire, 1836, Pt. 1, p. 138, t. 5, f. 21; Moore, Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 238; Eth. fil., Cat. Austr. Foss., 1878, p. 105; *id.*, Geol. Pal. Q'land, 1892, p. 440.	.....	R.D.	.....	.....
S. subtrachinus, Eth. fil....	Mem. Geol. Survey N.S. Wales, Pal., No. 11, 1902, p. 13, t. 7, f. 10.	R.D.	.....	.....	.....
S. tongowokensis, Eth. fil...	Mem. Geol. Survey N.S. Wales, Pal., No. 11, 1902, p. 12, t. 1, f. 14.	R.D.	.....	.....	.....
S. trachinus, Goldfuss (?)..	Petref. German., Ed. II, 1862, I, p. 219, Atlas, t. 70, f. 1; Eth. fil., Bull. Geol. Surv. Q'land., 1901, No. 13, p. 10, t. 4, f. 5, 6.	.....	R.D.	.....	.....
CRUSTACEA.					
Prosopon, *Von Meyer*, 1835.					
(N. Jahrb. Mineralogie, p. 329.)					
P. Etheridgei, H. Woodward.	Proc. Linn. Soc. N.S. Wales, 1892, VII (2), Pt. 2, p. 303, t. 4.	.....	R.D.	.....	.....
Crustacea, *gen et sp. indet.*					
Crustacean chela	Eth. fil., Proc. Linn. Soc. N.S. Wales, 1892, VII (2) Pt. 2, p. 305; Bull. Geol. Surv. Q'land, 1901, No. 13, p. 11.	.....	R.D.	.....	.....
Cirripedia, *gen. et sp. indet.*					
(?) Attachment areas of *Balani* on *Panopæa.*	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 243; Eth. fil, Geol. Pal. Q'land, 1892, p. 440.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.

INSECTA.

Æschna, *Fabricius*, 1776.

(Gen. Insectorum, p. 147.)

A. flindersensis, H. Woodward.	Geol. Mag., 1884, I, p. 339, t. 11, f. 1; Scudder, Bull. U.S. Geol. Survey, 1891, No. 71, p. 135; Eth. fil., Geol. Pal., Q'land, 1892, p. 441, t. 20, f. 4.	.....	R.D.	.....	.....

POLYZOA.

Lepralia, *Johnston*, 1838.

(Hist. Brit. Zoophytes, p. 277.)

L. (?) *oolitica*, Moore	*Lepralia*, Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 243, t. 17, f. 2; Eth. fil., Cat. Austr. Foss., 1878, p. 105; *L.* (?), *id.*, Geol. Pal. Q'land., 1892, p. 441, t. 20, f. 5, 6.	.....	R.D.	.....	.....

Lunulites, *Lamarck*, 1816.

(Hist. Nat. Anim. sans Vertèb., II, p. 194.)

L. (?) *abnormalis*, Eth. fil.	Bull. Geol. Surv. Q'land., 1901, No. 13, p. 11, t. 4, f. 7, 8.	.....	R.D.	.....	.....

Membranipora, *De Blainville*, 1830.

(Dict. Sci. Nat., LX, p. 411.)

M. wilsonensis, Eth. fil. ..	Mem. Geol. Surv. N.S. Wales, Pal., No. 11, 1902, p. 13, t. 8, f. 11, 12.	R.D.	.....	.....	.....

BRACHIOPODA.

Argiope, *Deslongchamps*, 1842.

(Mém. Soc. Linn. Normandie, VII, p. 14.)

A. (?) *punctata*, Moore ...	*Argiope*, Moore, Quart. Geol. Soc., 1870, XXVI, Pt. 2, p. 244, t. 10, f. 6; Eth. fil., Cat. Austr. Foss., 1878, p. 105; *A.* (?) *id.*, Geol. Pal. Q'land, 1892, p. 443, t. 20, f. 12.	.....	R.D.	.....	.....
A. (?) *wollumbillaensis*, Moore.	*Argiope*, Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 243, t. 10, f. 3–5; Eth. fil., Cat. Austr. Foss., 1878, p. 105; *A.* (?) *id.*, Geol. Pal. Q'land., 1892, p. 442, t. 20 f. 9–11.	.....	R.D.	.....	.....

Discina, *Lamarck*, 1819.

(Hist. Nat. Anim. sans Vertèb., VI, Pt. 1, p. 236.)

D. apicalis, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, Pt, 2, p. 244, t. 10, f. 13; Eth. fil., Cat. Austr. Foss., 1878, p. 105; *id.*, Geol. Pal., Q'land., 1892, p. 444, t. 20, f. 15.	.....	R.D.	.....	.....

Rhynchonella, *Fischer de Waldheim*, 1809.

(Notice Foss. Gouv. Moscou, p. 35.)

R. croydonensis, Eth. fil..	Geol. Pal., Q'land, 1892, p. 560, t. 41, f. 13, 14.	.....	D.S.	.....	.....
R Eyrei, Eth. fil.....	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 8, t. 1, f. 2.	.....	.....	R.D.	.....
R. rustica, Moore.....	Quart. Journ. Geol Soc., 1870, XXVI, Pt. 2, p. 245, t. 10, f. 7–9; Eth. fil., Cat. Austr. Foss., 1878, p. 443; *id.*, Geol. Pal. Q'land., 1892, p. 443, t. 20, f. 13.	.....	R.D.	.....	.....
R. solitaria, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 245, t. 10, f. 10; Eth. fil., Cat. Austr Foss., 1878, p. 106; *id.*, Geol. Pal. Q'land, 1892, p. 444, t. 20, f. 19.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Lingula, *Bruguière*, 1791. (Encycl. Method., I, t. 250, f. 1.)				
L. subovalis, Davidson.....	*L. oralis* (Sby.) *vel. L. suboralis* (Dav.), Moore, Quart. Journ. Geol. Soc., 1870, XXVI, pp. 236, 240; *L. subovalis* (Dav.), Tate, Rept. Austr. Assoc. Adv. Sci. for 1888 [1889], I, p. 230; *L. oralis*, Eth. fil., Geol. Pal. Q'land., 1892, p. 444, t. 20, f. 14; *L. subovalis*, Eth. fil., Bull. Geol. Surv. Q'land., 1901, No. 13, p. 12; *id., ibid.*, Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 8, t. 1, f. 1.	.....	R.D.	R.D.	.....
	Terebratella, *D'Orbigny*, 1847. (Comptes Rendus, XXV, p. 269.)				
T. Davidsoni, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 245, t. 10, f. 1, 2; Eth. fil., Cat. Austr. Foss., 1878, p. 106; *id.*, Geol. Pal. Q'land., 1892, p. 442, t. 20, f. 7, 8.	.....	R.D.	.....	.....
	PELECYPODA.				
	Adrana, *H. and A. Adams*.				
A. elongata, Eth. fil.	*Vide* Malletia elongata.				
	Amusium, *Klein*, 1753. (Tent. Method. Ostr.)				
A., sp. ind.	Eth. fil., Geol. Pal. Q'land., 1892, p. 447, t. 21, f. 4, 4*a*.	.....	R.D.	.....	.....
	Arca, *Linnæus*, 1758. (Systema, Ed. X, I, p. 693).				
A. plicata, Moore	*Vide* Oxytoma simplex.				
A. prælonga, Moore.....	Quart. Journ. Geol. Soc., 1870, XXVI, p. 249, t. 14, f. 7; Eth. fil., Cat. Austr. Foss., 1878, p. 106; *ibid.*, Geol. Pal., Q'land., 1892, p. 468, t. 33, f. 7.	.....	R.D.	.....	.....
	Astarte, *J. Sowerby*, 1816. (Min. Conch., II, p. 85.)				
A. wollumbillensis, Moore.	Quart. Journ. Geol. Soc., 1870, XXVI, p. 250, t. 12, f. 12; Eth. fil., Cat. Austr. Foss., 1878, p. 106; *ibid.*, Geol. Pal. Q'land., 1892, p. 471, t. 27, f. 16.	.....	R.D.	.. ...	.....
	Aucella, *Keyserling*, 1846. (Reise in das Petschora-Land, p. 297.)				
A. incurva, Eth. fil.....	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 14, t. 7, f. 22–27.	.....	.....	R.D. (?)	.....
A. hughendenensis, Etheridge.	*Avicula*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 346, t. 25, f. 3; *Aucella*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 14; *id., ibid.*, Mem. Geol. Survey N.S. Wales, Pal. No. 11, 1903, p. 16, t. 5, f. 6, 7 (*for synonymy*).	R.D.	R.D.	R.D.	.....
A. Liversidgei, Eth. fil. ...	*Vide* A. hughendenensis.				
	Avicula (*Klein*), *Lamarck*.				
A. æqualis, Moore	*Vide* Oxytoma simplex.				
A. alata, Etheridge	*Vide* Maccoyella Barklyi.				
A. Barklyi, Moore	*Vide* Maccoyella Barklyi.				
A. braamburiensis, Phillips	*Vide* Lima braamburiensis.				
A. corbiensis, Moore.....	*Vide* Maccoyella corbiensis.				
A. orbicularis, Hudleston.	*Vide* Pseudavicula australis.				
A. reflecta, Moore.....	*Vide* Maccoyella reflecta.				
A. simplex	*Vide* Oxytoma simplex.				
A. substriata, Moore	*Vide* Maccoyella substriata.				
A. umbonalis, Moore	*Vide* Maccoyella umbonalis.				

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Cardium (*Linn.*), *Lamarck* (*emend.*), 1799. (Prodr. Mém. Soc. Hist. Nat. Paris, p. 86.)				
C. (?) *Browni*, Eth. fil. ...	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 31, t. 6, f. 3–5.	.....	.....	R.D.	.....
	Ceromya, *L. Agassiz*, 1842. (Études Crit. Moll. Foss., Livr. 2, p. 25.)				
C. (?), *sp. ind.*	Eth. fil., Geol. Pal. Q'land., 1892, p. 571, t. 26, f. 20.	.....	D.S.	.....	.....
	Corbicella, *Lycett.*				
C. (?) *maranoana*, Eth. fil.	*Vide* Tatella maranoana.				
	Corbicula, *Muhlfeldt.*				
C. (?) *Meeki*, Eth. fil.	*Vide* Cyrenopsis Meeki.				
	Corimya, *Agassiz*, 1845.* (Études Crit. Moll. Foss., Livr. 4, p. 262.)				
C. (?) *primula*, Hudleston.	*Thracia*, Hudleston, Geol. Mag., 1890, VII (3), p. 245, t. 9, f. 7; *Corimya*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 36; *id.*, *ibid.*, Mem. Geol. Surv. N.S. Wales, Pal., No. 11, 1903, p. 38, t. 3, f. 8, 9 (*for synonymy*).	R.D.	R.D.	R.D.	.....
C. Wilsoni, Moore	*Thracia*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 14, f. 8; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 113; *Corimya*, *ibid.*, Geol. Pal. Q'land., 1892, p. 481, t. 28, f. 10 (? f. 11).	.....	R.D.	.....	.....
	Crenatula, *Lamarck.*				
C. (?) *gibbosa*, Etheridge ..	*Vide* Maccoyella corbiensis.				
	Cucullæa, *Lamarck*, 1801. (Syst. Anim. sans Vertèb., p. 116.)				
C. costata, Etheridge	*Vide* Idonearca (?) robusta.				
C. (?) *gradata*, Eth. fil. ...	Mem. Geol. Surv. N.S. Wales, Pal., No. 11, p. 27, t. 4, f. 5, 6.	R.D.	.....	.....	.....
C. Hendersoni, Eth. fil. ...	Geol. Pal. Q'land., 1892, p. 468, t. 26, f. 2, 3 ...	.....	R.D.	.....	.....
C. robusta, Etheridge	*Vide* Idonearca (?) robusta.				
	Cyprina, *Lamarck.*				
C. Clarkei, Auct.	*Vide* Fissilunula Clarkei.				
C. expansa, Etheridge.....	*Vide* Fissilunula Clarkei.				
C. (?) *sp. ind.*.....	*Vide* Cytherea (?) Moorei.				
	Cyrena, *Lamarck.*				
C. (?) *n. sp.*, Gurich.....	*Vide* Cyrenopsis opallites.				
	Cyrenopsis, *Eth. fil.*, 1903. (Mem. Geol. Surv. N.S. Wales, Pal., No. 11, p. 28.)				
C. (?) *corrugata*, Tate	*Platopsis* (?), Tate, Trans. R. Soc. S. Austr., 1898, XXII, Pt. 2, p. 78, woodcut; *Cyrenopsis* (?), Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal., No. 11, p. 30.	D.S.			
C. Meeki, Eth. fil.	*Unicardium*, Eth. fil., Geol. Pal., Q'land., 1892, p. 472, t. 27, f. 2, 3 (?), t. 26, f. 13–15; *Corbicula* (?), *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 30, t. 6, f. 8–13; *Cyrenopsis*, *ibid.*, Mem. Geol. Survey N.S. Wales, Pal., No. 11, 1903, p. 29.	.....	R.D.	R.D.	.....
C. opallites, Eth. fil.	*Cyrena* (?), *n. sp.*, Gürich, N. Jahrb. Min., 1901, Beil. Bd., XIV., p. 486, t. 19, f. 5*a*, 5*b*, 6; *Cyrenopsis opallites*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal., No. 11, p. 29, t. 5, f. 12–17.	D.S.	.....	.....	.....

* Agassiz, in his *Nomenclator*, gives the original date and reference as—1845, *Sowerby's Mineral Conchology*. We presume the French edition is meant.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Cytherea, *Lamarck*, 1806.				
	(Ann. Mus. Hist. Nat. Paris, VII, p. 132.)				
C. Clarkei, Moore	*Vide* Fissilunula Clarkei.				
C. (?) *Hudlestoni*, Eth. fil..	Geol. Pal. Q'land., 1892, p. 473, t. 28, f. 12.....	.....	R.D.	.....	.....
C. (?) *Moorei*, Eth. fil.....	*Cyprina* (?), Hudleston, Geol. Mag., 1884, I (3), p. 341, t. 11, f. 7*a*, *b* ; *Cytherea* (*Cyprina* ?), *Moorei*, Eth. fil., Geol. Pal. Q'land., 1892, p. 474, t. 34, f. 12, 13 ; *C.* (?), *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 34.	.....	R.D.	R.D.	.....
C. (?) *subaurita*, Eth. fil....	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 33, t. 5, f. 11, 12.	.....	.....	R.D.	.....
C. (?) *woodwardiana*, Hudleston.	Geol. Mag., 1884, I (3), p. 340, t. 11, f. 8*a–c* ; *id.* (?), Eth. fil., Geol. Pal. Q'land., 1892. p. 473, t. 27, f. 12–14 ; *id.*, *ibid.*, Mem. R Soc. S. Austr., 1902, II, Pt. 1, p. 34.	.....	R.D.	R.D.	.....
C. (?) *sp. ind.*	Eth. fil., Geol. Pal. Q'land., 1892, p. 483, t. 26, f. 11, 12.	.....	R.D.	.....	.....
	Fissilunula, *Eth. fil.*, 1903.				
	(Mem. Geol. Surv. N.S. Wales, Pal., No. 11, p. 31.)				
F. Clarkei, Moore.....	*Cytherea*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 250, t. 13, f. 1 ; *Cyprina*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 32, t. 5, f. 5, 5*a*, 6, t. 6, f. 1, 2 ; *Fissilunula*, Eth. fil., Mem. Geol. Survey N.S. Wales, Pal. No. 11, 1903, p. 36, t. 6, f. 3, t. 9, f. 1, t. 10, f. 1, 2, t. 11, f. 1, 2 (*for synonymy*).	R.D.	R.D. D.S.	R.D. D.S.	.....
	Gastrochæna, *Spengler*, 1783.				
	(Saml. K. Danks. Vid. Selsk. Skr., II, p. 174.)				
G. australis, Eth. fil.	Geol. Pal. Q'land., 1892, p. 482, t. 31, f. 6–8.....	.....	R.D.	.....	.....
	Gervillia, *Defrance*, 1820.				
	(Dict. Sci. Nat., XVIII, p. 502.)				
G. angusta, Hudleston ...	Geol. Mag., 1884, I (3), p. 341, t. 11, f. 5 ; *id.*, Eth. fil. Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 14.	.....	.. ...	R.D.	.....
	Glycimeris, (*Klein*), *Lamarck*, 1799.				
	(Prodr., Mém. Soc. Hist. Nat. Paris, p. 83.)				
G. aramacensis, Eth. fil....	Geol. Pal. Q'land., 1892, p. 479, t. 28, f. 7, 8 ...	.....	R.D.	.....	.....
G. eyrensis, Eth. fil.....	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 39, t. 5, f. 1, 2.	.....	.....	R.D.	.....
G. Maccoyi, Moore	*Mya*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 253, t. 13, f. 8 ; *Panopæa sulcata*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 342, t. 21, f. 2 (*non* f. 2*a*) ; *Glycimeris maccoyi*, Eth. fil., Geol. Pal. Q'land., 1892, p. 480 ; *G. sulcata*, *ibid.*, *op. cit.*, p. 571 (*non* t. 17, f. 18) ; *G. maccoyi*, *ibid.*, Bull. Geol. Surv. Q'land, 1901, Bull. 13, p. 30 ; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 38, t. 4, f. 10, 11.	.....	R.D. D.S.	R.D.	.....
G. obesus, Eth. fil.	Mem. Geol. Surv. N.S. Wales, Pal., No. 11, 1903, p. 38, t. 5, f. 10, 11.	R.D.	.....	.. ...	.....
G. rugosa, Moore	*Panopæa*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 253, t. 13, f. 7 ; *P. sulcata*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 21, f. 2*a* (*non* f. 2) ; *Myacites* (?) *australis*, Hudleston, Geol. Mag., 1884, I, p. 340, t. 11, f. 9 ; *Glycimeris*, Eth. fil., Geol. Pal. Q'land, 1892, pp. 478, 571, t. 28, f. 4, 5 ; *id.*, *ibid.*, Bull. Geol. Surv. Q'land., 1901, No. 13, p. 29, t. 4, f. 1 ; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 38, t. 4, f. 8, 9, 12 (?).	.....	R.D. D.S.	R.D.	.....
G. sulcata, Eth. fil.	*Vide* G. Maccoyi.				

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Goniomya, *L. Agassiz*, 1842.				
	(Études Crit. Moll. Foss., Liv. 2, p. 1.)				
G. depressa, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 251, t. 13, f. 6; Eth. fil., Cat. Austr. Foss., 1878, p. 108; *ibid.*, Geol. Pal. Q'land., 1892, p. 480, t. 28, f. 9.	.....	R.D.	.....	.....
	Gryphæa, *Lamarck*.				
G. vesiculosa, J. Sby.	*Vide* Ostrea vesiculosa.				
	Homomya, *L. Agassiz*, 1842.				
	(Études Crit. Moll. Foss., Liv. 3, p. 154.)				
H., sp. ind.	Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 347, t. 25, f. 5; Eth. fil., Cat. Austr. Foss., 1878, p. 108; *ibid.*, Geol. Pal. Q'land., 1892, p. 480.	.....	R.D.	.....	.....
	Idonearca, *Conrad*, 1862.				
	(Proc. Acad. Nat. Sci. Philadelphia, XIV, p. 289.)				
I. (?) *robusta*, Eth.	*Cucullæa robusta*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 340, t. 20, f. 1; *C. costata*, Etheridge, *loc. cit. supra*, p. 340, t. 20, f. 2; *C. robusta*, Eth. fil., Geol. Pal. Q'land., 1892, p. 565, t. 26, f. 1, 4; *I.* (?), *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 27, t. 4, f. 1–3.	.....	D.S.	R.D.	.....
	Inoceramus (*J. Sowerby*, ms. 1814), *Parkinson*, 1819.				
	(Trans. Geol. Soc. V, p. 55.)				
I. constrictus, Eth. fil.....	Bull. Geol. Surv. Q'land., 1901, p. 24, t. 2, f. 7, t. 3, f. 6.	.....	R.D.	.....	.....
I. Cripsii, Mantell	Foss. S. Downs, 1822, p. 133, t. 27, f. 11; Zittel, Denks. K. Akad. Wissen., Wien., 1866, XXV, Abth. 2, p. 95, t. 14, f. 1–5, t. 15, f. 1–5; Roemer, Kreidebild. Texas, 1852, p. 56, t. 7, f. 2; *I. Cripsianus*, Stoliczka, Pal. Indica (Cret. Fauna, S. India), 1871, III, fasc. 5–8, p. 405, t. 27, f. 1–3; *I. Cripsii*, Eth. fil., Geol. Pal. Q'land., 1892, p. 465, t. 21, f. 17, 18.	.....	R.D.	.....	.....
I. elongatus, Eth.	*I. multiplicatus*, Stoliczka, Pal. Indica (Cret. Foss., S. India), III, 1871, fas, 5–8, p. 406, t. 28, f. 1; *id.*, var. *elongatus*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 343, t. 22, f. 2; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 109; *I. elongatus*, Eth. fil., Geol. Pal. Q'land, 1892, p. 464.	.....	R.D.	.....	.....
I. Etheridgei, Eth, fil.....	*I. Carsoni*, McCoy, Ann. Mag. Nat. Hist., 1865, XVI, p. 334; *I. pernoides*, Etheridge (*non* Goldfuss), Quart. Journ. Geol. Soc., 1872, XXVIII, p. 343, t. 22, f. 3; (?) *I. problematicus*, Etheridge (*non* Goldfuss), Quart. Journ. Geol. Soc., p. 344, t. 22, f. 4; *I. Carsoni*, Eth. fil., Geol Pal. Q'land, 1892, p. 463 (*non* t. 25, f. 9, 10); *I. pernoides*, *id.*, Geol. Pal. Q'land., 1892, p. 464, t. 25, f. 7, 8, 12; *I., sp. ind.*, *id.*, Geol. Pal. Q land., 1892, t. 21, f. 19; *I. Etheridgei*, Bull. Geol. Surv. Q'land., 1901, No. 13, p. 22.	.....	R.D.	.....	.....
I. marathonensis, Eth. ...	Quart. Journ. Geol. Soc., 1872, XXVIII, p. 343, t. 22, f. 1; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 109; *id.*, *ibid.*, Journ. R. Soc. N.S. Wales for 1883 [1884], XVII, t. [I], upper fig.; *id.*, *ibid.*, Geol. Pal. Q'land., 1892, p. 464.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
I. maximus, Lumholtz.....	*I. Sutherlandi*, McCoy, Ann. Mag. Nat. Hist., 1865, XVI, p. 334 ; *I., sp. ind.*, Lundgren, Bihang K. Sv. Vet. Akad. Handl., 1886, XI, No. 5, p. 4, t. ; *I. maximus*, Lumholtz, Among Cannibals, 1890, p. 367, fig. ; *I. Carsoni*, Eth. fil., Geol. Pal. Q'land., 1892, t. 25, f. 8, 9, 12 (*excl. obs., &c.*) ; *I. Sutherlandi*, Eth. fil., Geol. Pal. Q'land., 1892, p. 463 (*excl. last two locs.*)	.....	R.D.	.....	.....
I., sp. ind......	Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal., No. 11, 1903, p. 22.	D.S.	.....	.....	.....
I., sp. ind......	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 17, t. 2, f. 3.	.....	.....	R.D.	.....
I., sp. ind., Lundgren.....	*Vide* I. maximus.				
I. allied to *problematicus* (D'Orb.), Eth.	*Vide* I. maximus.				
I. Carsoni, Eth. fil.....	*Vide* I. maximus.				
I. Carsoni, McCoy	*Vide* I. Etheridgei.				
I. Cripsianus, Stol.....	*Vide* I. Cripsii.				
I. pernoides, Eth. (*non* Goldfuss).	*Vide* I. Etheridgei.				
I. problematicus, Eth. (*non* Goldfuss).	*Vide* I. Etheridgei.				
I. Sutherlandi, McCoy.....	*Vide* I. maximus.				
	Isocardia, *Lamarck*, 1799.				
	(Prodr., Mém. Mus. Hist. Nat. Paris, p. 86.)				
I. (?) *Tatei*, Eth. fil.....	Trans. R. Soc. S. Austr., 1902, II, Pt. 1, p. 32, t. 3, f. 27, t. 4, f. 13–14.	.....	.....	R.D.	.....
	Leda, *Schumacher*.				
L. elongata, Eth.	*Vide* Malletia elongata.				
	Lima, *Bruguière*, 1789.				
	(Tab. Encycl. Méthod., t. 206.)				
L. (?) *braamburiensis* (Sby.), Phillips (?)	*Avicula*, Phillips, Geol. Yorkshire, 1829, I, p. 140, t. 6, f. 6 ; *id.*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 240, t. 11, f. 5 ; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 107 ; *Lima* (?), *ibid.*, Geol. Pal. Q'land., 1892, p. 447, t. 21, f. 12.	.....	R.D.	.....	.....
L. Gordoni, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 247, t. 12, f. 4 ; Eth. fil., Cat. Austr. Foss., 1878, p. 109 ; *ibid.*, Geol. Pal. Q'land., 1892, p. 447, t. 24, f. 16.	.....	R.D.	.....	.....
L. multistriata, Moore.....	Quart. Journ. Geol. Soc., 1870, XXVI, p. 248, t. 12, f. 5 ; Eth. fil., Cat. Austr. Foss., 1878, p. 109 ; *L.* (?), *ibid.*, Geol. Pal. Q'land., 1892, p. 448, t. 24, f. 17.	.....	R.D.	.....	.....
L. Randsi, Eth. fil.....	*Vide* Radula Randsi.				
L., sp. ind.	Eth. fil., Geol. Pal. Q'land., 1892, p. 563, t. 21, f. 11.	.....	D.S.	.....	.....
	Lucina, *Bruguière*, 1792.				
	(Encycl. Méthodique, 1792, t. 284–286.)				
L. (?) *anomala*, Moore ...	*Vide* Pseudavicula anomala.				
L. (?) *australis*, Moore ..	*Vide* Pseudavicula australis.				
L. (?) *Bonythoni*, Tate ...	Trans. R. Soc. S. Austr., 1898, XXII, Pt. 2, p. 77 (woodcut) ; (?) *Maccoyella reflecta*, Eth. fil., Mem. Geol. Surv. N.S. Wales, 1903, Pal. No. 11, p. 22.	D.S.	.....	.....	... ..
	Lutraria, *Lamarck*, 1799.				
	(Prodr. Mém. Soc. Hist. Nat. Paris, p. 85.)				
L., sp. ind.	Eth. fil., Geol. Pal. Q'land., 1892, p. 572		D.S.		

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Maccoyella, *Eth. fil.*, 1892.				
	(Geol. Pal. Q'land., p. 451.)				
M. Barklyi, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 245, t. 11, f. 1, 2; *Maccoyella*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 11, t. 1, t. 3–7; *id., ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 17, t. 2, f. 3–5, t. 3, f. 4, 5, t. 4, f. 3, 4 (*for synonymy*).	R.D. D.S.	R.D. D.S.	R.D. D.S.	.....
M. Barklyi, var. *mariaburiensis*, Eth. fil.	*Vide* M. Barklyi.....	.....	D.S.	.....	.....
M. Barklyi, var. *reflecta* (Moore), Ten.-Woods.	*Vide* M. reflecta.				
M. corbiensis, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 11, f. 7; *Maccoyella*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 13, t. 1, f. 9, 10, *id., ibid.*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 21, t. 1, f. 6–10 (*for synonymy*).	R.D.	R.D. D.S.	R.D.	.....
M. reflecta, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 12, f. 1; *Maccoyella*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 18, t. 1, f. 1–5, t. 2, f. 1, 2, t. 3, f. 1–3, t. 4, f. 2 (*for synonymy*).	R.D.	R.D. D.S.	R.D.	.....
M. reflecta, var. *Gilliatti*, Ten.-Woods.	*Vide* M. reflecta and M. corbiensis.				
M. rostrata, Eth. fil.	*M.* (?) *substriata*, Geol. Pal. Q'land., 1892, p. 459, t. 23, f. 8, 9 (*non* t. 22, f. 10); *M. rostrata*, *ibid.*, Bull. Geol. Surv. Q'land., 1901, No. 13, p. 19, t. 4, f. 3.	.....	D.S.	.....	.....
M. subangularis, Eth. fil.	*Vide* M. substriata.				
M. substriata, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, Pt. 2, p. 247, t. 11, f. 6; *Maccoyella* (?), Eth. fil., Geol. Pal. Q'land., 1892, p. 459,, t. 22, f. 10 (*non* t. 23, f. 8, 9); *M.* (?) *subangularis*, *ibid., op. cit.*, p. 460; *M. substriata*, *ibid.*, Bull. Geol. Surv. Q'land, 1901, No. 13, p. 19, t. 3, f. 5, t. 4, f. 4.	.....	R.D. D.S.	.....	.....
M. umbonalis, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 246, t. 12, f. 2, 3; *Maccoyella*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 13, t. 1, f. 8. *id., ibid.*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 20, t. 4, f. 1 (*for synonymy*).	..... R.D.	R.D. D.S.	R.D.	.....
	Macrocallista, *Meek*, 1876.				
	(Rept. U.S. Geol. Survey Territ., IX, p. 179.)				
M. (?) *plana*, Moore	*Myacites*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 12, f. 10; *Macrocallista* (?), Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 35, t. 5, f. 7–10; *id., ibid.*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 37 (*for synonymy*).	R.D.	R.D.	R.D.	.....
	Mactra (*Linn.*), *Lamarck*, 1799.				
	(Mém. Soc. Hist. Nat. Paris, p. 85.)				
M. triyonalis; Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 252, t. 14, f. 6; Eth. fil., Cat. Austr. Foss., 1878, p. 110; *ibid.*, Geol. Pal. Q'land., 1892, p. 481, t. 27, f. 17.	.....	R.D.	.....	.....
M. Meeki, Eth. fil.	*Vide* Cyrenopsis Meeki.				

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
Malletia, *Desmoulins*, 1832.					
	(Act. Soc. Linn. Bordeaux.)				
M. elongata, Etheridge ...	*Leda*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 20, f. 5; *Malletia*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 26, t. 3, f. 21–24, t. 6, f. 14; *id., ibid.*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 25, t. 2, f. 6–8 (*for synonymy*).	R.D.	D.S.	R.D.	.....
M. Raadsi, Eth. fil.	*Vide* M. elongata.				
Meleagrinella, *Whitfield*, 1885.					
	(Mon. U.S. Geol. Surv. (Powell's), IX, p. 71.)				
M. (?), sp. ind.	Eth fil., Geol. Pal. Q'land, 1892, p. 482, t. 21, f. 16.	.. ...	R.D.	.....	.....
Modiola, *Lamarck*, 1799.					
	(Prodr., Mém. Soc. Hist. Nat. Paris, p. 87.)				
M. dunlopensis, Eth. fil. ...	*M. flagellifera*, Eth. fil. (*non* Forbes), in Wilkinson, Notes Geol. N.S. Wales, 1887, p. 78; *M. dunlopensis*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 23, t. 5, f. 4, 5, t. 6, f. 1, 2, t. 7, f. 1.	R.D. D.S.	.....	.....	.....
M. ensiformis, Eth. fil. ...	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 22, t. 3, f. 8–12.	.....	.....	R.D.	.....
M. eyrensis, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 22, t. 2, f. 5–9.	.....	.....	R.D.	.....
M. flagellifera, Eth. fil. (non. Forbes).	*Vide* M. dunlopensis, Eth. fil.				
M. linguloides, Hudleston	*Vide* Mytilus inflatus.				
M. subsolenoides, Hudleston	Geol. Mag., 1890, VII (3), p. 245, t. 9, f. 8; *id.*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 22.	.. ...	.....	R.D.	.....
M. Tatei, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 21, t. 2, f. 10, 11.	.....	.....	R.D.	.....
M. unica, Moore	Quart. Journ. Geol. Soc., 1870, XXV, p. 253, t. 13, f. 5; Eth, fil., Cat. Austr. Foss., 1878, p. 110; *ibid.*, Geol. Pal., Q'land, 1892, p. 468.	.. ...	R.D.	.....	.....
M., sp. ind.	Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal., No. 11, 1903, p. 24, t. 1, f. 12, 13.	D.S.	.....	.....	.....
Monotis, *Bronn*.					
M. Barklyi, Tate	*Vide* Maccoyella Barklyi.				
Mya, *Linnæus*.					
M. Maccoyi, Moore	*Vide* Glycimeris Maccoyi.				
Myacites, *Schlotheim*.					
M. (?) australis, Hudleston	*Vide* Glycimeris rugosa.				
M. planus, Moore	*Vide* Macrocallista (?) plana.				
M., sp., Etheridge	*Vide* Macrocallista (?) plana.				
Myophoria, *Bronn*.					
M., sp. ind., McCoy	*Vide* Trigonia lineata.				
Mytilus (*Linnæus*), *Lamarck* (*emend*), 1799.					
	(Prodr., Mém. Soc. Hist. Nat. Paris, p. 88.)				
M. inflatus, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 252, t. 13, f. 4; Eth. fil., Cat. Austr. Foss., 1878, p. 110; *ibid.*, Geol. Pal. Q'land, 1892, p. 467, t. 25, f. 11; Hudleston, Geol. Mag., 1890, VII (3), p. 245; Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 2, p. 18, t. 2, f. 12–21; *Modiola linguloides*, Hudleston, Geol. Mag., 1884, I (3), p. 341, t. 11, f. 6.	.....	R.D.	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
M. ingens, Ten. Woods ...	Proc. Linn. Soc. N.S. Wales, 1882, VII, Pt. 3, p. 389; Eth. fil., Geol. Pal. Q'land, 1892, p. 467.	.....	R.D.	.....	.....
M. palmerensis, Eth. fil...	*M. inflatus*, Ten. Woods (*non* Moore), Journ. R. Soc. N.S. Wales for 1882 (1883), XVI, p. 153, t. 10, f. 8; *M. inflatus* (*pars*), Eth. fil., Geol. Pal. Q'land, 1892, p. 467; *M. palmerensis*, *ibid.*, Bull. Geol. Surv. Q'land, 1901, p. 21, t. 2, f. 9.	.....	R.D.	.....	.....
M. primulafonsensis, Eth. fil.	Trans. R. Soc. S. Austr., 1903, II, Pt. 1, p. 18, t. 2, f. 22–24.	.....	.....	R.D.	.....
M. rugocostatus, Moore ...	Quart. Journ. Geol. Soc., 1870, XXVI, p. 252, t. 13, f. 2; Eth. fil., Cat. Austr. Foss., 1878, p. 111; *ibid.*, Geol. Pal. Q'land, 1892, p. 466; *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 20, t. 3, f. 1–7; *Mytilus*, *sp.*, Hudleston, Geol. Mag., 1890, VII (3), p. 245, t. 9, f. 9.	.....	R.D.	R.D.	.....
M. Tenison-Woodsi, Eth. fil.	*M. planus*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 252, t. 13, f. 3; *M. Tenison-Woodsi*, Eth. fil., Geol. Pal. Q'land, 1892, p. 466.	.....	R.D.	.....	.....
	Nucula, *Lamarck*, 1799.				
	(Prodr., Mém. Soc. Hist. Nat. Paris, p. 87.)				
N. australis, Moore	*Leda*, Quart. Journ. Geol. Soc., 1870, XXVI, p. 251, t. 12, f. 7; *Nuculana*, Eth. fil., Cat. Austr. Foss., 1878, p. 111; *Nucula*, *ibid.*, Geol. Pal. Q'land., 1892, pp. 469, .	.....	R.D.	.....	.....
N. Cooperi, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 12, f. 8; Eth. fil., Cat. Austr. Foss., 1878, p. 111; *ibid.*, Geol. Pal., Q'land, 1892, p. 469, t. 34, f. 11; *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 25.	.....	.....	R.D.	.....
N. gigantea, Etheridge....	Quart. Journ. Geol. Soc. 1872, XXVIII, p. 341, t. 20, f. 4; Eth. fil., Cat. Austr. Foss., 1878, p. 111; *ibid.*, Geol. Pal. Q'land, 1892, p. 566, t. 26, f. 6, 7.	.....	D.S.	.....	.....
N. quadrata, Etheridge ...	Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 19, f. 5, t. 20, f. 3; Eth. fil., Geol. Pal. Q'land, 1892, pp. 469, 565, t. 26, f. 8, 9; *ibid.*, Mem. R. Soc., S. Austr., 1902, II, Pt. 1, p. 23, t. 3, f. 13, 14.	.....	R.D. D.S.	R.D. D.S.	....
N. truncata, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 254, t. 12, f. 9; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 111; *ibid.*, Geol. Pal. Q'land, 1892, p. 469, t. 33, f. 9; *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 24, t. 3, f. 17–20.	.....	R.D.	R.D.	
N., sp. ind.	[Like *N. planimarginata*, Meek], Eth. fil., Geol. Pal. Q'land, 1892, p. 470.	.....	R.D.	.....	.....
N., (?) *sp. ind.*	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 25, t. 3, f. 15, 16.	.....	.....	R.D.	.....
	Nuculana, *Link*.				
N. elongata, Etheridge ...	*Vide* Malletia elongata.				
N. (? *Yoldia*) *Randsi*, Eth. fil.	*Vide* Malletia elongata.				
	Ostrea, *Linnæus*, 1758.				
	(Systema, Ed. X, p. 696.)				
O. vesiculosa, J. Sby., *sp.*..	*Gryphæa*, J. Sowerby, Min. Conch., 1822, IV, p. 93, t. 369; *Ostrea*, Coquand, Mon. Ostrea, 1869, p. 152, Atlas, t. 59, f. 4–7; *id.*. Pietet and Campiehe, Descr. Foss. Terr. Crét. Env. St. Croix, 1871, Pt. 4, p. 311, t. 194, f. 1–6; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 445, t. 21, f. 1–3.	.....	R.D.	.....	.....
O., sp. ind......	Eth. fil., Geol. Pal. Q'land, 1892, p. 561, t. 43, f. 8.	.....	D.S.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Oxytoma, *Meek*, 1864. (Smithson. Check-list N. Am. Cret. Foss., p. 29.)				
O. rockwoodensis, Eth. fil.	Geol. Pal. Q'land, 1892, p. 448, t. 24, f. 15. ...	.....	R.D.	.....	.....
O. (?) simplex, Moore	*Avicula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 247, t. 11, f. 3 (? f. 4); *A. æqualis*, Moore, *loc. cit.*, t. 11, f. 4 (? f. 3); *Arca plicata*, Moore, *loc. cit.*, p. 249, t. 12, f. 6; *O (?) simplex*, Eth. fil., Geol. Pal. Q'land, 1892, p. 449, t. 24, f. 2–5.	.....	R.D.	.....	.....
	Palæomœra, *Stoliczka*, 1870. (Cret. Fauna S. India (Pal. Indica), 1870, III, Fasc. 1–4, p. 116.)				
P. mariæburiensis, Etheridge.	*Tellina*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 20, f. 6, 6a; *Palæomœra*, Eth. fil., Geol. Pal. Q'land, 1892, p. 570; *id., ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 34.	.....	D.S.	D.S. (?)	.....
P. sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 478, t. 26, f. 16.	.....	R.D.	.....	.....
P. (?) sp. ind.	*Tellina*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 341, t. 20, f. 7; *Palæomœra*, Eth. fil., Geol. Pal. Q'land, 1892, p. 570, t. 26, f. 17.	.....	.....	D.S.	.....
	Panopæa, *Ménard de la Groye*.				
P. rugosa, Moore	*Vide* Glycimeris rugosa.				
P. sulcata, Eth.	*Vide* Glycimeris rugosa.				
P. sulcata, Eth.....	*Vide* Glycimeris Maccoyi.				
P. Maccoyi, Moore	*Vide* Glycimeris Maccoyi.				
	Pecten, *O. F. Müller*, 1776. (Zool. Danicæ Prodr., p. xxxi.)				
P. æquilineatus, Moore ...	*Vide* Syncyclonema socialis	.....	R.D.	.....	.....
P. fimbriatus, Moore	*Vide* P. Moorei.				
P. Moorei, Eth. fil.	*P. fimbriatus*, Moore (*non* Philippi), Quart. Journ. Geol. Soc., 1870, XXVI, p. 248, t. 11, f. 8; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 112; *P. (?) Moorei, ibid.*, Geol. Pal. Q'land, 1892, p 445, t. 21, f. 20. [Probably a *Maccoyella*, *vide* description of t. 21.]	.....	R.D.	.....	.....
P. psila, Ten. Woods	*Vide* Syncyclonema socialis	.....	R.D.	.....	.....
P. socialis, Moore	,, ,, ,, ...	.....	R.D.	.....	.....
P. sp. ind.	,, ,, ,, ...	.....	R.D.	.....	.....
P. sp. ind.	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 9, t. 1, f. 3.	.....	.....	R.D.	.....
P. sp. ind.	Eth. fil., Geol. Pal Q'land, 1892, p. 446, t. 21, f. 7, 9.	.....	R.D.	.....	.....
P. sp. ind., Hudleston ...	*Vide* Protamusium (?) gradatum.				
	Perna, *Bruguière*, 1789. (Tab. Encycl. Method., t. 175.)				
P. gigantea, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 249; Eth. fil., Cat. Austr. Foss., 1878, p. 112; *ibid.*, Geol. Pal. Q'land, 1892, p. 462.	.....	R.D.	.....	.....
	Pholadomya, *G. B. Sowerby*, 1823. (Genera of Shells, No. 19.)				
P. ebaensis, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 36, t. 5, f. 3, 4.	.....	.....	R.D.	.....
P. terra-reginæ, Eth. fil....	Rec. Austr. Mus., 1902, IV, No. 5, p. 205, fig. 21 (woodcut).	.....	R.D.	.....	.....
P. (?), sp. ind.	Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 347, t. 25, f. 6.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Pinna, *Linnæus*, 1758.				
	(Syst. Nat., Ed. X, p. 707.)				
P. australis, Hudleston ...	Geol. Mag., 1890, VII (3), p. 244, t. 9, f. 6; *id.*, Eth. fil., Bull. Geol. Surv. Q'land, 1901, No. 13, p. 20; *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 17.	.....	.....	R.D.	.....
P. sp. ind.	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 17.	.....	.....	R.D.	.....
P. sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 465, t. 20, f. 16, 17.	.....	R.D.	.....	.....
	Placuna, *Bruguière*, 1789.				
	(Encycl. Method., I, t. 174, 175.)				
P. sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 562, t. 43, f. 9.	.. ...	D.S.	.. ...	.....
	Platopsis, *Whitfield*.				
P. (?) *corrugata*, Tate	*Vide* Cyrenopsis (?) corrugata.				
	Protamusium, *Verril*, 1899.				
	(Trans. Connecticut Acad., XI, Pt. 1, p. 71.)				
P. (?) *gradatum*, Eth. fil....	*Pecten, sp. ind.*, Hudleston, Geol. Mag., 1890, VII (3), p. 244, t. 9, f. 5; *Protamusium* (?), Eth., fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 10, t. 1, f. 14.	.. ..	.....	R.D.	.. ...
	Pseudavicula, *Eth. fil.*, 1892.				
	(Geol. Pal. Q'land, 1892, p. 449.)				
P. (?) *alata*, Eth. fil.	*Vide* Maccoyella Barklyi.				
P. anomala, Moore	*Lucina* (?), Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 450, t. 14, f. 4; *Pseudavicula*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 16, t. 2, f. 1; *id.*, *ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 15, t. 7, f. 11, t. 10, f. 4 (*for synonymy*).	R.D.	R.D.	R.D.	.....
P. australis, Moore	*Lucina*, Moore, Quart. Journ. Geol. Soc., 1872, XXVI, p. 251, t. 14, f. 5; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 110; *Avicula orbicularis*, Hudleston, Geol. Mag., 1884, I (3), p. 341, t. 11, f. 10; *Pseudavicula anomala* (pars), Hudleston, Geol. Mag., 1890, VII (3), p. 244; *P. australis*, Eth. fil., Geol. Pal. Q'land, 1892, p. 451, t. 24, f. 7, 9, 10, 11, 12, 13; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 15, t. 2, f. 2.	.....	R.D.	R.D.	.....
	Pteria, *Scopoli*, 1777.				
	(Introd. Hist. Nat,, p. 397.)				
P. Tatei, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 11, t. 1, f. 15.	.....	.....	R.D.	.....
	Radula, *Klein*, 1753.				
	(Tent. Meth. Ostrac., p. 135.)				
R. Randsi, Eth. fil.	*Lima* (*Radula*), Eth. fil., Geol. Pal. Q'land, 1892, p. 562, t. 21, f. 13; *Radula*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 16, t. 2, f. 4.	.....	D.S.	R.D.	.. ...
	Solemya, *Lamarck*, 1818.				
	(Hist. Nat. Anim. sans Vertèb., V, p. 488.)				
S. cretacea, Eth. fil.	Bull. Geol. Surv. Q'land, 1901, No. 13, p. 26, t. 4, f. 2.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Syncyclonema, *Meek*, 1864. (Smithson. Miscl. Collections, XII, No. 177, p. 31.)				
S. socialis, Moore	*Pecten*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 248, t. 11, f. 9; *Syncyclonema*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 9, t. 1, f. 11, 12; *id.*, *ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 14 *(for synonymy)*.	R.D.	R.D.	R.D.	.. ...
	Tancredia, *Lycett*.				
T. plana, Moore	*Vide* Macrocallista (?) plana.				
T., sp., Etheridge	*Vide* Macrocallista (?) plana.				
	Tatella, *Eth. fil.*, 1901. (Bull. Geol. Surv. Q'land., No. 13, p. 27.)				
T. maranoana, Eth. fil.	*Corbicella* (?), Geol. Pal. Q'land., 1892, p. 471, t. 27, f. 4, 5, t. 28, f. 2, 3; *Tatella*, *ibid.*, Bull. Geol. Surv. Q'land, 1901, No. 13, p. 28, t. 1, f. 5, t. 2, f. 8; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 36, t. 2, f. 25, 26, t. 3, f. 28, 29.	.....	R.D.	R.D.	.....
	Thracia (*Leach*), *Blainville*.				
T. primula, Hudleston	*Vide* Corimya (?) primula.				
	Tellina, *Linnæus*, 1758. (Systema, Ed. X, p. 674.)				
T. mariæburiensis, Etheridge.	*Vide* Palæomœra mariæburiensis.				
T., sp. ind.	Eth. fil., Mem. Geol. Survey N.S. Wales, Pal. No. 11, 1903, p. 37, t. 11, f. 6.	R.D.	.....	.....	.....
T., sp., Etheridge	*Vide* Palæomœra sp.				
	Teredina, *Lamarck*, 1818. (Hist. Nat. Anim. sans Vertèb., V, p. 438.)				
T. opalina, Gürich	Neues Jahrb. Min., 1901, Beil.-Bd. XIV, p. 488, t. 19, f. 4 *a–c*; Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, p. 1902, p. 39.	D.S.	.....	.....	.. ...
	Teredo, *Linnæus*, 1758. (Systema, Ed. X, p. 651.)				
T. vastitas, Eth. fil.	Rec. Austr. Mus., 1902, IV, No. 5, p. 201, t. 34, 35.	.....	R.D.	.....	.....
T., sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 572, t. 43, f. 11, 12.	.....	D.S.	.....	.. ...
	Trigonia, *Bruguière*, 1789. (Encycl. Method., I, t. 14.)				
T. cinctuta, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 28, t. 4, f. 4–6, 7 (?).	.....	.....	R.D.	.....
T. lineata, Moore	*Myophoria, sp.*, McCoy, Trans. R. Soc. Viet., 1865, VI, p. 44; *T. lineata*, Moore, Quart. Geol. Soc. 1870, XXVI, p. 255, t. 13, f. 12; *id.*, Eth. fil., Cat. Austr. Foss., 1878, p. 113; *id.*, *ibid.*, Geol. Pal. Q'land, 1892, p. 470; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 28, t. 3, f. 25, 26.	.....	R.D.	R.D.	.....
T. mesembria, Ten. Woods	*Vide* T. nasuta.				
T. nasuta, Etheridge	Quart. Journ. Geol. Soc., 1872, XXVIII, p. 339, t. 19, f. 2, 2*a*; Eth. fil., Mem. Geol. Survey N.S. Wales, Pal. No. 11, 1903, p. 25, t. 5, f. 1–3 *(for synonymy)*.	R.D.	D.S.	.....	.....
T., sp. ind. (*a*)	Eth. fil., Geol. Pal. Q'land, 1892, p. 567, t. 26, f. 5.	.....	D.S.	.....	.....
T. (*cf. semiornata*, D'Orb.)	Eth. fil., Geol. Pal. Q'land, 1892, p. 471, t. 21, f. 21.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Unicardium, *D'Orbigny*, 1850.				
	(Prodr. Pal. Strat., I, p. 218.)				
U. (?) *Etheridgei*, Eth. fil..	*Genus* (?), Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 339, t. 19, f. 4; *U.* (?) *Etheridgei*, Eth. fil., Geol. Pal. Q'land, 1892, p. 569, t. 27, f. 1.	.. ...	D.S.	.....	.. ...
U. Meeki, Eth. fil.	*Vide* Cyrenopsis Meeki.				
	Unio, *Phillippson*, 1788.				
	(Dissèrt. Hist. Nat. Nov. Test. Gen., p. 26.)				
U., sps. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 468	.....	R.D.	.....	.....
	Yoldia, *Möller*.				
Y. Randsi, Eth. fil.	*Vide* Malletia elongata.				
	SCAPHOPODA.				
	Dentalium, *Linnæus*, 1740.				
	(Syst. Nat., Edit. 2, p. 64.)				
D. wollumbillœnsis, Eth. fil.	*D. lineatum*, Moore (*non* Guéranger), Quart. Journ. Geol. Soc., 1870, XXVI, p. 256; *D. arcotinum*, Tate (*non* Forbes), Rept. Austr. Assoc. Adv. Sci. for 1888 (1889), I, p. 230; *D. wollumbillœnsis*, Eth. fil., Geol. Pal. Q'land, 1892, p. 483; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 39, t. 6, f. 31.	.....	R.D.	R.D.	.....
	GASTEROPODA.				
	Actæon, *De Montfort*.				
A. depressus, Moore.....	*Vide* Cinulia (?) depressa.				
A. Hochstetteri, Moore ...	*Vide* Cinulia Hochstetteri.				
	Anchura, *Conrad*, 1860.				
	(Journ. Acad. Nat. Sci. Philad., IV, p. 284.)				
A. Wilkinsoni, Eth. fil. ...	*Alaria* or *Anchura*, Hudleston, Geol. Mag., 1890, VII (3), p. 242, t. 9, f. 2; *Anchura* (?), Eth. fil., Geol. Pal. Q'land, 1892, p. 486, t. 31, f. 4, 5; *Anchura*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 43, t. 6, f. 26–30.	.....	R.D.	R.D.	.....
	Cinulia, *Gray*, 1840.				
	(Synopsis Brit. Mus.)				
C. (?) *depressa*, Moore.....	*Actæon*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 20; *Actæon* or *Avellana*, Hudleston, Geol. Mag., 1890, VII (3), p. 243, t. 9, f. 4; *Actæon*, Eth. fil., Geol. Pal. Q'land, 1892, p. 484, t. 29, f. 9; *Cinulia* (?), *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 40.	.....	R.D.	R.D.	.....
C. Hochstetteri, Moore.....	*Actæon*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 19; *Cinulia*, Tate, Rept. Austr. Assoc. Adv. Sci., 1888 [1889], I, p. 230; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 484; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 40, t. 6, f. 25.	.....	R.D.	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
Delphinula, *Lamarck*, 1804.					
	(Ann. Mus. Hist. Nat. Paris, IV, p. 108.)				
D. reflecta, Moore	*Vide* Pseudamaura reflecta.				
D. (?) *Sturti*, Eth. fil.	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 41, t. 6, f. 21, 22.	.....	.....	R.D.	.....
Ditremaria, *D'Orbigny*, 1843.					
	(Pal. Franç. Terr. Crét. (Gastropodes), II, Liv. 49–60, p. 276.)				
D. (?) *cretacea*, Eth. fil. ...	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 40, t. 6, f. 23, 24.	.....	.....	R.D.	.....
Natica, *Adanson*, 1757.					
	(Hist. Nat. Sénégal, Coquil., p. 172.)				
N. Jackii, Eth. fil.	Geol. Pal. Q'land, 1892, p. 486, t. 21, f. 22 ...	.....	R.D.	.....	.....
N. lineata, Etheridge	*Vide* Pseudamaura variabilis.				
N. ornatissima, Moore ...	Quart. Journ. Geol. Soc., 1870, XXVI, p. 257, t. 10, f. 16; Eth. fil., Cat. Austr. Foss., 1878, p. 114; *ibid.*, Geol. Pal. Q'land, 1892, p. 486, t. 25, f. 11.	.....	R.D.	.....	.....
N. variabilis, Moore	*Vide* Pseudamaura variabilis.				
Pleurotomaria, *Defrance*, 1824.					
	(Tabl. Corps Organ. Foss., p. 114.)				
P. (?) *Cliftoni*, Etheridge..	Quart. Journ. Geol. Soc., 1872, XXVIII, p. 347, t. 25, f. 4; Eth. fil., Cat. Austr. Foss., 1878, p. 114; *ibid.*, Geol. Pal. Q'land., 1892, p. 484, t. 29, f. 10.	.....	R.D.	.....	.....
Pseudamaura, *Fischer*, 1885.					
	(Man. Conch. et Pal. Conch., Fasc. 8, p. 767.)				
P. variabilis, Moore	*Natica*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 15; *Natica*, Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 42, t. 6, f. 15, 16, 17; *Pseudamaura, ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 40, t. 2, f. 9–12 *(for synonymy)*.	D.S.	R.D. D.S.	R.D.	.....
P. reflecta, Moore	*Delphinula*, Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 256, t. 10, f. 21; *Pseudamaura*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 42, t. 2, f. 13–16.	R.D.	R.D.	.....	.....
Turbo (*pars.*), *Linnæus*, 1758.					
	(Systema, Ed. X, p. 761.)				
T., sp. ind.	Hudleston, Geol. Mag., 1890, VII (3), p. 243, t. 9, f. 3. [This is probably a species of *Pseudamaura*.]	.....	.....	R.D.	.....
Vanikoropsis, *Meek*, 1876.					
	(Rept. U.S. Geol. Surv. Territ. (Hayden's), IX, p. 351.)				
V. (?) *Stuarti*, Eth. fil. ...	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 42, t. 6, f. 18, 19, 20.	.....	.....	R.D.	.....
Viviparus, *De Montfort*, 1810.					
	(Conchyl. System., II, p. 247.)				
V. (?) *alba-scopularis*, Eth. fil.	Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 43, t. 7, f. 8, 9.	D.S.	.....	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.

CEPHALOPODA.

Amaltheus, *De Montfort*, 1808.

(Conch. Syst., I, p. 91.)

A. olene, Ten. Woods	*Ammonites*, Journ. R. Soc. N.S. Wales for 1882 [1883], p. 150, t. 7, f. 2, t. 8, f. 1 ; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 492, t. 29, f. 5, t. 30, f. 4 ; *A. fontinalis*, Hudleston, Geol. Mag., 1890, VII (3), p. 241, t. 9, f. 1 ; *Amaltheus*, Eth. fil., Bull. Geol. Surv. Q'land, 1901, No. 13, p. 32, t. 2, f. 4 ; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 45.	.....	R.D.	R.D.	.....
A. sp. ind.	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 45, t. 7, f. 12, 13.	.....	.....	R.D.	.....

Ammonites, *Auct.*

A. Beudanti, var. Mitchelli, Etheridge.	*Vide* Haploceras Flindersi.				
A. Flindersi, McCoy	*Vide* Haploceras Flindersi.				
A. Daintreei, Etheridge ...	*Vide* Haploceras Daintreei.				
A. inflatus, J. Sby.	Min. Conch., 1817, II, p. 170, t. 175; D'Orbigny, Pal. Franç., Terr. Crét., 1840, I, p. 304, t. 90 ; Stoliczka, Foss. Ceph. Cret. S. India (Pal. Ind) series 3, Pt. 1, 1863, Pt. 1, p. 48, t. 27, 28, 29, 30, f. 1–3 ; Eth. fil., Geol. Pal. Q'land, 1892, p. 493, t. 34, f. 1–4.	.....	R.D.	.....	.....
A. Sutherlandi, Etheridge.	*Vide* Desmoceras Sutherlandi.				
A. Sutherlandi, McCoy, ms.	Trans. R. Soc. Vict., 1868, VIII, Pt. 1, p. 42 ; Eth. fil., Geol. Pal. Q'land., 1892, p. 496.	.....	R.D.	.....	.....
A. walshensis, Eth. fil. ...	Geol. Pal. Q'land, 1892, p. 493, t. 42, f. 10, 11.	.....	R.D.	.....	.....

Ancyloceras, *D'Orbigny*, 1842.

(Pal. Franç. Terr. Crét., I, p. 491.)

A. Flindersi, McCoy	Ann. Mag. Nat. Hist., 1867, XIX (3), p. 356 ; Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 8, t. 1–3 *(for synonymy)*.	R.D.	R.D.	.....	.....
A. Taylori, Eth. fil.....	Geol. Pal. Q'land, 1892, p. 498, t. 42, f. 13.....	.....	R.D.	.....	.....
A (?), *sp. ind.*	Eth. fil., Bull. Geol. Surv. Q'land, 1901, No. 13, p. 33, t. 2, f. 5.	.....	R.D.	.....	.....
A., sp. ind.	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 46, t. 7, f. 14, 15.	.....	.....	R.D.	.....

Belemnitella, *D'Orbigny*.

B. diptycha, McCoy..	*Vide* Belemnites Canhami.				

Belemnites (*G. Agricola*), *D'Orbigny*, 1840.

(Pal. Franç. Terr. Crét., I, p. 37.)

B. australis, Phillips	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 258, t. 16, f. 1, 2 (*non* f. 3, 4) ; Eth. fil., Cat. Austr. Foss., 1878, p. 116 ; *ibid.*, Geol. Pal. Q'land, 1892, p. 487, t. 35, f. 1, 2.	.....	R.D.	.....	.....
B. australis, Phillips	*Vide* Belemnites Canhami.				
B. australis, Tate.....	*Vide* B. oxys.				
B. australis, Ten. Woods..	*Vide* B. oxys.				
B. Canhami, Tate.....	Trans. R. Soc. S. Austr. for 1878–9 [1879], II, p. 1 ; Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 49 ; *id.*, *ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 45, t. 8, f. 8, 9, t. 9, f. 2 *(for synonymy)*.	R.D. (?) D.S.	R.D.	R.D.	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
B. eremos, Tate	*B. paxillosus*, Phillips (*non* Schlotheim), Moore, Quart. Journ. Geol. Soc., 1870, XXVI, pp. 240, 259, t. 16, f. 6, 6*a*, *b*; *B.. allied to B. australis*, Tate, Quart. Journ. Geol. Soc., 1877, XXXIII, p. 258; *id.*, *ibid.*, Trans. Phil. Soc. S. Austr. for 1878–79, II, p. xlviii; *B. eremos*, *ibid.*, Rept. Austr. Assoc. Adv. Sci. for 1888 [1889], I, pp. 229,230; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 488, t. 35, f. 6; *id.*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 51, t. 7, f. 18–21.	.....	R.D.	R.D.	.....
B. Kleinii, Gürich	Neues Jahrb. Min., 1901, Beil.-Bd., XIV, p. 489, t. 19, f. 2 *a–d*, 3; *id.*, Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 47.	D.S.	.....	.....	.....
B. (?) *Liversidgei*, Eth. fil.	Geol. Pal. Q'land, 1892, p. 491, t. 35, f. 17–20.	.....	R.D.	.....	.....
B. oxys, Ten. Woods	Proc. Linn. Soc. N.S. Wales, 1883, VIII, Pt. 2, p. 237, t. 13, f. 1–3; Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 48; *ibid.*, Mem. Geol. Survey N.S. Wales, Pal. No. 11, 1903, p. 48, t. 6, f. 4–6, t. 7, f. 5–7, t. 8, f. 4–6, 7 (?) *(for synonymy)*.	R.D.	R.D.	R.D.	.....
B. paxillosus, Phillips (*non* Selotheim).	*Vide* B. eremos.	–			
B. Selheimi, Ten. Woods	Journ. R. Soc. N.S. Wales for 1882 [1883], XVI, p. 150, t. 7, f. 1; Tate, Rept. Austr. Assoc. Adv. Sci., for 1888 [1889], I, p. 230; Eth. fil., Geol. Pal. Q'land, 1892, p. 489, t. 35, f. 10, 11; *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 50, t. 7, f. 16, 17.	.....	R.D.	R.D.	
B. sp. ind.	Eth. fil., Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 46, t. 9, f. 3–5.	R.D.	.....	.....	.....
B. sp. ind.	Eth. fil., Geol. Pal. Q'land, 1892, p. 492, t. 35, f. 15, 16.	.....	R.D.	.....	.....
B. sp. ind.	Eth. fil., Papers and Proc. R. Soc. Tas. for 1879 [1880], p. 18, t. (possibly *B. oxys*, Ten. Woods).	.....	R.D.	.....	.....

Buchiceras, *Hyatt*, 1875.

(Proc. Boston Soc. Nat. Hist., XVII, p. 367.)

B. (?), *sp. ind.*	Eth. fil., Mem. R. Soc. S. Austr., 1903, II, Pt. 1, p. 47, t. 7, f. 9.	.....	.....	R.D.	.....

Crioceras, *Leveillé*, 1873.

(Mém. Soc. Géol. France, II, p. 313.)

C. australe, Moore	Quart. Journ. Geol. Soc., 1870, XXVI, p. 257, t. 15, f. 3; Waagen, Jurassic Fauna Kutch (Pal. Ind.) Ceph., 1875, I, No. 4, p. 246, t. 60, f. 1, *a–c*; Eth. fil., Cat. Austr. Foss., 1878, p. 116; *C. Jackii*, Eth. fil., Procs. R. Phys. Soc. Edinb., 1880, V, p. 305, t. 17, f. 55–58; *C. australe*, Ten. Woods, Journ. R. Soc. N.S. Wales for 1882, XVI, p. 152, t. 10, f. 5, 6; *id.*, Ratte, Proc. Linn. Soc. N.S. Wales, 1886, I, p. 133, t. 1, 2; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 499, t. 30, f. 7, t. 31, f. 1, t. 32, f. 1–4 (?) 5, t. 33, f. 2; Tate and Watt, Rept. Horn Exped., 1896, Pt. 3, p. 63.	.....	R.D.	R.D.	.....
C. Edkinsi, Eth. fil.	Geol. Pal. Q'land, 1892, p. 502, t. 30, f. 8, 9.	.....	R.D.	.....	.....
C. irregulare, Ten. Woods.	Journ. R. Soc. N.S. Wales, 1882, XVI, p. 151, t. 8, f. 2; Eth. fil., Geol. Pal. Q'land, 1892, p. 501, t. 33, f. 1, t. 42, f. 16, t. 32, f. 5 (?).	.....	R.D.	.....	.....
C. Jackii, Eth. fil.	*Vide* C. australe.				
C., sp. ind.	*Ancyloceras* or *Hamites*, Eth. fil., Journ. R. Soc. N.S. Wales for 1883, XVII, p. 89, 2nd pl., bottom l. h. fig.; *C., sp. ind.*, *ibid.*, Geol. Pal. Q'land, 1892, p. 502, t. 33, f. 4, 5, 6.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
	Desmoceras, *Zittel*, 1884. (Handb. Pal., 1 Abth., Palæozool., II, p. 465.)				
D. carolensis, Eth. fil.....	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 43, t. 7, f. 2–5.	.....	.....	.....	R.D. or D.S.
D. Jonesi, Gregory and F. V. Smith.	Proc. R. Soc. Vic., 1903, XV (n.s.), Pt. 2, p. 142, t. 22.	.....	R.D.	.....	.....
D(?)*Sutherlandi*, Etheridge	*Ammonites*, Quart. Journ. Geol. Soc., 1872, XXVII, p. 345, t. 21, f. 4; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 496, t. 29, f. 6; *Haploceras*, *ibid.*, Bull. Geol. Surv. Q'land, 1901, No. 13, p. 32; *Desmoceras (?)*, *ibid.*, Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 44.	.....	R.D.	.....	.....
	Hamites, *Parkinson*, 1811. (Organ. Remains, III, p. 144.)				
H. (?) *laqueus*, Eth. fil. ...	Geol. Pal. Q'land, 1892, p. 496, t. 42, f. 14, 15	.....	R.D.	.....	.....
H., sp. ind.	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 46, t. 7, f. 12, 13.	.....	.....	.....	R.D or D.S.
	Haploceras, *Zittel*, 1870. (Ceph. Stramberger Schichten, p. 166.)				
H. Daintreei, Etheridge...	*Ammonites*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 346, t. 24; *Haploceras*, Eth. fil., Mem. R. Soc. S. Austr., 1903, II, Pt. 1, p. 44, t. 7, f. 1; *id. ibid.*, Mem. Geol. Surv. N.S. Wales, Pal. No. 11, 1903, p. 49, t. 7, f. 2–4.	R.D.	R.D.	?R.D.	.....
H. Flindersi, McCoy	*Ammonites*, McCoy, Ann. Mag. Nat. Hist., 1865, XVI, p. 334; *ibid.*, *op. cit.*, 1867, XX, p. 196; *ibid.*, Trans. R. Soc. Vict., 1866, VII, p. 51; *ibid.*, *op. cit.*, 1866, VIII, p. 42; *A. Beudanti*, var. *Mitchelli*, Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 345, t. 23; *A. Flindersi*, Eth. fil., Cat. Austr. Foss., 1878, p. 115; *id.*, *ibid.*, Geol. Pal. Q'land, 1892, p. 494, t. 30, f. 1–3; *Haploceras*, Eth. fil., Bull. Geol. Surv. Q'land, 1891, No. 13, p. 31.	.....	R.D.	.....	.....
H. Sutherlandi, Etheridge	*Vide* Desmoceras Sutherlandi.				
	Histrichoceras, *Hyatt*, 1900. (Zittel-Eastman, Text Book Pal., I, p. 589.)				
H. (?), *sp. ind.*	Eth. fil., Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 47, t. 7, f. 6, 7.	.....	.....	.....	R.D. or D.S.
	Nautilus, *Breynius*, 1732. (Dissert. Phys. Polythalamiis.)				
N. Hendersoni, Eth. fil. ...	Geol. Pal. Q'land, 1892, p. 502; *N.* (*Cymatoceras*?), *ibid.*, Bull. Geol. Surv. Q'land, 1901, p. 34, t. 1, f. 1, t. 2, f. 1–3.	.....	R.D.	.....	.....
	Scaphites, *Parkinson*, 1811. (Organ. Remains, III, p. 145.)				
S. cruciformis, Eth. fil. ...	Mem. R. Soc. S. Austr., 1902, II, Pt. 1, p. 45, t. 7, f. 10, 11.	.....	.....	.....	R.D. or D.S.
	Teuthis, *Schneider*, 1784. (Samml. Verm. Abhandl., p. 113.)				
T., sp. ind.	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 258, t. 16, f. 8; Eth. fil., Cat. Austr. Foss., 1878, p. 117; *ibid.*, Geol. Pal. Q'land, 1892, p. 487, t. 35, f. 21.	.....	R.D.	.....	.....

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
VERTEBRATA.					
PISCES.					
Aspidorhynchus, *Agassiz*, 1833.	(Rech. Poiss. Foss., II, Pt. 2, p. 135.)				
A., sp. ind.	Etheridge, Quart. Journ. Geol. Soc., 1872, XXVIII, p. 346 ; Eth. fil., Geol. Pal. Q'land, 1892, p. 504.	.....	R.D.	.....	.....
Belonostomus, *Agassiz*, 1844.	(Rech. Poiss. Foss., II, Pt. 2, p. 140.)				
B. Sweeti, Eth. fil., and A. S. Woodward.	Trans. R. Soc. Vict., 1892, II (2), Pt. 2, p. 1, t. 1 ; Eth. fil., Geol. Pal. Q'land, 1892, p. 504 ; A. S. Woodward, Cat. Foss. Fishes Brit. Mus., 1895, Pt. 3, p. 437.	.....	R.D.	.....	.....
Cladocyclus, *Agassiz*, 1841.	(Edinb. New Phil. Journ., XXX, p. 83.)				
C. Sweeti, A. S. Woodward.	Ann. Mag. Nat. Hist., 1894, XIV (6), p. 445, t. 10, f. 2-6 ; Cat. Foss. Fishes Brit. Mus., Pt. 4, 1901, p. 111.	.....	R.D.	.....	.....
Hybodus, *Agassiz*, 1837.	(Rech. Poiss., Foss. III, p. 41.)				
H., sp. ind.	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 238.	.....	R.D.	.....	.....
Lamna, *Cuvier*, 1817.	(Règne Animal, II, p. 126.)				
L. Daviesii, Eth. fil.	Proc. Linn. Soc. N.S. Wales, 1888, III (2), Pt. 1, p. 159, t. 4, f. 2, 3 ; Geol. Pal. Q'land, 1892, p. 503.	.....	R.D.	.....	.....
L. appendiculatus, Agassiz.	*Otodus*, Agassiz, Rech. Poiss. Foss., 1843, III, p. 270, t. 32, f. 1-25 ; *id.*, Eth. fil., Proc. Linn. Soc. N.S. Wales, 1888, III (2), Pt. 1, p. 158, t. 4, f. 1 ; *Lamna*, A. S. Woodward, Cat. Foss. Fishes Brit. Mus., 1889, Pt. 1, p. 393.	.....	R.D.	.....	.....
Lepidotus, *Agassiz*, 1832.	(N. Jahrb. Min., p. 145.)				
L., sp. ind.	Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 238.	.....	R.D.	.....	.....
Otodus, *Agassiz*.					
O. appendiculatus, Agassiz.	*Vide* Lamna appendiculatus.				
Portheus, *Cope*, 1872.	(Proc. Am. Phil. Soc., XII, p. 331.)				
P. australis, A. S. Woodward.	Ann. Mag. Nat. Hist., 1894, XIV (6), p. 444, t. 10, f. 1 ; Cat. Foss. Fishes Brit. Mus., Pt. 4, 1901, p. 97.	.....	R.D.	.....	.....
REPTILIA.					
Agrosaurus, *Seeley*, 1891.	(Quart. Journ. Geol. Soc., XLVII, p. 164.)				
A. Macgillivrayi, Seeley...	Quart. Journ. Geol. Soc., 1891, XLVII, p. 164, woodcuts.	.....	D.S. (?)*	.....	.....

* The horizon of this Reptile is unknown.

Species.	Reference.	N.S.W.	Q.	S.A.	N. Terr.
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	(Proes. Acad. Nat. Sci. Philad for 1851, p. 326.)				
C. leucoscopelus, Eth. fil....	Rec. Austr. Mus., 1897, III, No. 2, p. 24. t. 5, 6, 7.	D.S.	...	.....	.....
	Ichthyosaurus, *König*, 1820.				
	(Icon. Foss. Sectiles, t. 19, f. 250.)				
I. australis, McCoy (*non* Hector).	Ann. Mag. Nat. Hist., 1867, XIX, p. 355; XX, p. 196; Trans. R. Soc. Vict., 1868, VIII, Pt. 1, p. 42; *op. cit.*, 1869, IX, Pt. 2, p. 77; Moore, Quart. Journ. Geol. Soc., 1870, XXVI, p. 228; Eth. fil., Cat. Austr. Foss., 1878, p. 118; *ibid.*, Geol. Pal. Q'land, 1892, p. 505; *ibid.*, Rec. Austr. Mus., 1897, III, No. 3, p. 66; *ibid.*, Ann. Mag. Nat. Hist., 1898, I (7), p. 143.	.....	R.D.	.....	.....
I. marathonensis, Eth. fil..	Proc. Linn. Soc. N.S. Wales, 1888, III (2), Pt. 2, p. 405, t. 7; Geol. Pal. Q'land, 1892, p. 506.	.....	R.D.	.....	.....
	Notochelone, *Lydekker*, 1889.				
	(Geol. Mag., VI (3), p. 325.)				
N. costata, Owen	*Notochelys*, Owen (*non* Gray), Quart. Journ. Geol. Soc., 1882, XXXVIII, p. 178; *id.*, Eth. fil., Geol. Mag., 1886, III (3), p. 239; *Notochelone*, Lydekker, Geol. Mag., 1889, VI (3), p. 325; *id.*, *ibid.*, Cat. Foss. Rept. and Amphib. Brit. Mus., Pt. 3, 1889, p. 70; *id.*, Eth. fil., Geol. Pal. Q'land, 1892, p. 505.	.....	R.D.	.....	.....
	Plesiosaurus, *Conybeare*, 1821.				
	(Trans. Geol. Soc., V, Pt. 2, pp. 560, 581.)				
P. macrospondylus, McCoy	Ann. Mag. Nat. Hist., 1867, XIX, p. 365; XX, p. 196; Trans. R. Soc. Vict., 1868, VIII, Pt. 1, p. 42; Eth. fil., Cat. Austr. Foss., 1878, p. 118; *ibid.*, Geol. Pal. Q'land, 1892, p. 508.	.....	R.D.	.....	.....
P. Sutherlandi, McCoy ...	Ann. Mag. Nat. Hist., 1867, XIX, p. 356; XX, p. 196; Trans. R. Soc. Vict., 1868, VIII, Pt. 1, p. 42; Eth. fil., Cat. Austr. Foss., 1878, p. 118; *ibid.*, Ann. Rept. Dept. Mines, N.S. Wales for 1887 [1888], p. 167, t. 1, f. 1–4; *ibid.*, Geol. Pal. Q'land, 1892, p. 508.	.....	R.D.	.....	.....
P., sp. ind.	Eth. fil., Proc. Linn. Soc. N.S. Wales, 1888, III (2), Pt. 2, p. 410, t. 8; *ibid.*, Geol. Pal. Q'land, 1892, p. 509.	.. ...	R.D.	.. ...	.....

CORRIGENDA.

An error has crept in, in the designation of the Memoir on the Cretaceous Fossils of S. Australia. In some references it is alluded to as "*Trans. R. Soc. S. Austr.*," in others as "*Mem. R. Soc. S. Austr.*"; the latter is correct.

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PLATES AND EXPLANATIONS.

Unless otherwise stated to the contrary the figures are of the natural size, and the specimens are in the Mining and Geological Museum, Sydney.

PLATE I.

Maccoyella reflecta, *Moore*, sp.

Fig. 1. Right valve exhibiting small umbo, byssal sinus, chondrophoral button, and costæ (Tenison Woods' type—*Proc. Linn. Soc. N.S. Wales*, 1883, VIII, Pt. 2, t. 12, f. 5).

Fig. 2. Interior of Fig. 1, exhibiting byssal sinus, chondrophoral button, posterior pyriform chondrophore, ossiculum below the latter, and adductor impression.

Mount Stuart Run—Colln. Macleay Museum.

Fig. 3. Young individual, approaching in appearance to *M. Barklyi*, Moore, sp., but possessing the posterior fold-like alation of *M. reflecta*; also exhibiting pronounced umbo and strong costæ.

Fig. 4. Interior of Fig. 3, exhibiting the scobinate lamellæ at the anterior end of the cardinal margin.

Mount Stuart Run—Colln. Macleay Museum.

Fig. 5. Lenticular shell structure, always seen in sections of the test prepared for the microscope, or on the interior of a valve when weathered or exfoliated.

Maccoyella corbiensis, *Moore*, sp.

Fig. 6. Left valve, exhibiting the small posterior alation, produced posterior-ventral end, and wide growth lamellæ.

Yandaminta.

Fig. 7. Right valve, and umbo and cardinal margin of the left valve.

Mount Poole.

Fig. 8. Left valve, showing characters similar to those of Fig. 6.

Fig. 9. Cardinal margin of Figs. 8 and 10, and interior of valve.

Fig. 10. Interior of Fig. 8, exhibiting the overhanging umbo, and adductor impression.

Mount Stuart Run—Colln. Macleay Museum.

Modiola Tatei, *Eth. fil.*

Fig. 11. Left valve, replaced by common opal.

White Cliffs—Colln. Gipps.

Modiola, sp.

Fig. 12. Right valve, replaced by common opal.

Fig. 13. Cardinal margin of Fig. 12.

White Cliffs—Colln. Gipps.

Serpula tongowokoensis, *Eth fil.*

Fig. 14. Tubes attached to portion of *Maccoyella* shell.

Mount Stuart Run—Colln. Macleay Museum.

PLATE II.

Maccoyella reflecta, *Moore*, sp.

Fig. 1. Left valve, exhibiting the fold-like posterior alation, costæ, wide concentric laminæ of growth, and intermediate frills.

Fig. 2. Interior of Fig. 1, exhibiting the cardinal area supporting the transverse pyriform chondrophore, anterior scobinate lamellæ, central shoe-horn-shaped socket, linear posterior area, and reniform adductor scar.

Mount Stuart Run—Colln. Macleay Museum.

Maccoyella Barklyi, *Moore*, sp.

Fig. 3. Right valve, exterior, showing chondrophoral plug, byssal sinus, and remains of costæ.

Fig. 4. Interior of Fig. 3, exhibiting chondrophoral button, byssal sinus, posterior pyriform chondrophore, ossiculum below the latter, adductor impression, and supplementary muscle-fibre pits.

North of Milparinka.

Fig. 5. Right valve, exterior, replaced by translucent opal.

White Cliffs.

Malletia elongata, *Etheridge.*

Fig. 6. Right valve, side view, more or less exfoliated.

Fig. 7. Dorsal view of Fig. 6.

Dunlop Station—Colln. Macleay Museum.

Fig. 8. Internal cast, partially enclosed in matrix.

Mount Stuart East Block.

Pseudamaura variabilis, *Moore*, sp.

Fig. 9. Dorsal view of an opalised shell.

Fig. 10. Ventral view of the same specimen (Fig. 9).

White Cliffs—Colln. Brown.

Fig. 11. Dorsal view of a smaller shell, replaced by common opal.

Fig. 12. Ventral view of the same shell (Fig. 11).

White Cliffs—Colln. Gipps.

Pseudamaura reflecta, *Moore*, sp.

Fig. 13. Dorsal view of an opalised specimen.

Fig. 14. Ventral view of the same individual, showing a portion of the reflected inner lip.

White Cliffs—Colln. Brown.

Fig. 15. Dorsal view of a somewhat distorted specimen.

Fig. 16. Ventral view of the same shell (Fig. 15).

White Cliffs—Colln. Brown.

PLATE III.

Maccoyella reflecta, *Moore*, sp.

Fig. 1. Right valve, exterior of a worn specimen.

Fig. 2. Interior of Fig. 1, showing chondrophoral button, byssal sinus, posterior pyriform chondrophore, ossiculum, and semi-circle of muscle-fibre pits.

Near Milparinka.

Fig. 3. Left valve of an aged specimen, in which the shoe-horn-shaped socket is not developed, the resilium furrows passing completely across the cardinal area, and the ventral edge of the latter projecting downwards.

Mount Poole.

Maccoyella Barklyi, *Moore*, sp.

Fig. 4. Left valve worn and somewhat distorted, showing traces of interrupted growth.

Fig. 5. Interior of Fig. 4, exhibiting the cardinal area, adductor impression, and oblique line of mucle-fibre pits.

North of Milparinka.

Inoceramus, sp.

Fig. 6. Kaolinised cast of the exterior of a valve.

Fig. 7. Another similar specimen.

White Cliffs.

Corimya primula, *Hudleston.*

Fig. 8. Clay cast of part of a right valve.

Mount Stuart Run—Colln. Macleay Museum.

Fig. 9. A similar and more complete specimen.

Mount Brown District.

Crinoid arms.

Fig. 10. Portion with pinnulæ, replaced by common opal.

Fig. 11. Portion in same condition, showing an axilare.

White Cliffs.

PLATE IV.

Maccoyella umbonalis, *Moore*, sp.

Fig. 1. Interior of a left valve in an indifferent state of preservation, but showing the massive cardinal area, adductor scar, and lenticular shell structure.

Near Milparinka.

Maccoyella reflecta, *Moore*, sp.

Fig. 2. Cardinal region of the united valves, exhibiting in apposition their various parts. On the left is the large gap left by the posterior pyriform resilium, and beyond it the posterior linear resilium; in the centre is the chondrophoral button, and on the right the scobinate lamellæ.

Near Milparinka.

Maccoyella Barklyi, *Moore*, sp.

Fig. 3. Interior of a portion of a left valve, displaying the characters of the cardinal margin, and the reniform adductor scar.

Near Milparinka.

Fig. 4. Kaolinised shale cast of the exterior of a left valve, showing costæ.

White Cliffs.

Cucullæa? gradata, *Eth. fil.*

Fig. 5. Right valve, side view.

Fig. 6. Cardinal or dorsal view of Fig. 5.

Mount Poole Station.

Isocrinus australis, *Moore*, sp.

Figs. 7, 8, 9. Three views of a part of the dorsal cup and arms, partially replaced by precious opal.

Fig. 10. The imperfect dorsal cup, showing portions of $\bar{1}$Br.

White Cliffs.

PLATE V.

Trigonia nasuta, *Etheridge*.

Fig. 1. Exfoliated right valve, with cincture and sculpture (Tenison Woods' type of *T. mesembrya*—Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, t. 12, f. 1–3).

Fig. 2. Interior of Fig. 1.

Fig. 3. Jelly cast, taken from the interior (Fig. 2) of Fig. 1, showing the vacuities left by the denticulated teeth.

Mount Stuart Run—Colln. Macleay Museum.

Modiola dunlopensis, *Eth. fil.*

Fig. 4. Right valve of a kaolin cast.

White Cliffs.

Fig 5 Posterior end of a left valve, cast in shale.

White Cliffs.

Aucella hughendenensis, *Etheridge.*

Fig. 6. Crushed shells, partially testaceous.

Fig. 7. Single left valve, mudstone cast.

Mokely Well.

Macrocallista? plana, *Moore*, sp.

Fig 8. Left valve, partially testaceous.

Fig. 9. Cardinal or dorsal view of Fig. 8.

Waratta Creek.

Glycimeris obesus, *Eth. fil.*

Fig. 10. Right valve of a cast retaining traces of test.

Fig. 11. Cardinal or dorsal view of Fig. 10, exhibiting gaping extremities.

Momba Station.

Cyrenopsis opallites, *Eth. fil.*

Fig. 12. Right valve, replaced more or less by translucent opal. The posterior ventral extremity is imperfect.

Fig. 13. Cardinal or dorsal view of Fig. 12.

White Cliffs.

Fig. 14. Another right valve, partly opalised.

Fig. 15. Cardinal or dorsal view of Fig. 14.

White Cliffs.

Fig. 16. Incomplete right valve, opalised.

Fig. 17. Interior of Fig. 16, showing dentition.

White Cliffs—Colln. Gipps.

PLATE VI.

Modiola dunlopensis, *Eth. fil.*

Fig. 1. Left valve of a mature specimen.

Fig. 2. Cardinal or dorsal view of Fig. 1.

Momba Station—Colln. Tate.

Fissilunula Clarkei, *Moore*, sp.

Fig. 3. Portion of a right valve, showing the incurved umbo, and characteristic sculpture below.

Near Milparinka.

Belemnites oxys, *Ten. Woods.*

Fig. 4. Guard displaying dorso-lateral furrows, and a portion of the alveolus (Tenison Woods' type—Proc. Linn. Soc. N. S. Wales, 1883, VIII, Pt. 2, t. 13, f. 1-3).

Fig. 5. Lateral view of Fig. 4.

Fig. 6. Transverse view of a portion of the alveolus.

Mount Stuart Run—Colln. Macleay Museum.

Crinoid arm.

Fig. 7. Portion of an arm with pinnules, opalised.

White Cliffs—Colln. Gipps.

PLATE VII.

Modiola dunlopensis, *Eth. fil.*

Fig. 1. Left valve of a non-testaceous example, exhibiting the sculpture.
Dunlop Station.

Haploceras Daintreei, *Etheridge.*

Fig. 2. Side view of a portion of the Ammonite, exhibiting parts of inner whorls, and remains of sculpture.

Fig. 3. Transverse view of the upper part of Fig. 2, showing lobes, saddles, and parts of inner whorls.

Fig. 4. Transverse view of the lower part of Fig. 2, taken across the line of fracture.
Yandamah Creek.

Belemnites oxys, *Ten. Woods.*

Fig. 5. Portion of guard, with dorso-lateral furrows.

Fig. 6. Ventral surface of Fig. 5, with the apical portion of the alveolus exposed.

Fig. 7. Transverse view of Fig. 5, showing alveolus.
Mount Brown District.

Viviparus? albaeopularis, *Eth. fil.*

Fig. 8. Dorsal view.

Fig. 9. Ventral view.
White Cliffs—Colln. Brown.

Serpula subtrachinus, *Eth. fil.*

Fig. 10. Shell of *Maccoyella*, supporting tubes.
Mount Wilson Well.

Pseudavicula anomala, *Moore*, sp.

Fig. 11. Mudstone, with pieces of shell exhibiting the characteristic sculpture of this species.—x 2.
Mount Poole District.

PLATE VIII.

Ancyloceras Flindersi, *McCoy*.

Fig. 1. Venter of a portion of a shell, exhibiting tubercles and costæ.

Fig. 2. Lateral view of Fig. 1, exhibiting a row of tubercles along the abdominal angle, and costæ, the latter uniting or not at the tubercles.

Fig. 3. Dorsum, with costæ.

Croxon's Station.

Belemnites oxys, *Ten. Woods.*

Fig. 4. Dorso-lateral view of guard, with grooves.

Fig. 5. Ventro-lateral view of Fig. 4.

Fig. 6. Section of guard (Fig. 4), showing apex of alveolus.

Mount Brown District.

Fig. 7. Small guard, possibly the young condition of this species.

Belemnites Canhami, *Tate.*

Fig. 8. Dorso-lateral view (in part) of guard.

Fig. 9. Lateral view of Fig. 8, with one of the dorso-lateral furrows, divided by a ridge.

Croxon's Well, Mount King Blocks.

Belemnites, sp.

Fig. 10. An imperfect opalised guard, having some features in common with *B. Canhami*, Tate.

White Cliffs—Colln. Gipps.

Membranipora ? wilsonensis, *Eth. fil.*

Fig. 11. Colony encrusting the interior of a Bivalve.

Fig. 12. The zoœcia enlarged.

Mount Wilson Well.

PLATE IX.

Fissilunula Clarkei, *Moore*, sp.

Fig. 1. Right valve, internal cast, with the produced anterior end, posterior adductor scar, and pallial line.

Yandamah Creek.

Belemnites Canhami, *Tate.*

Fig. 2. Lateral view of the guard, with a dorso-lateral groove, divided by a ridge.

S. Australian Border.

Belemnites, sp.

Fig. 3. Dorso-lateral view of a guard, with a much extended "neck." This may be a form of *B. Canhami*, Tate.

Fig. 4. Lateral view of Fig. 3, exhibiting the double groove.

Fig. 5. Transverse view of Fig. 3, showing the alveolar apex at the proximal end of the extended "neck."

Near Queensland Border, in well 150 feet deep, North of Milparinka.

Tellina, sp.

Fig. 6. Portions of two valves.

Mount Wilson Well.

PLATE X.

Fissilunula Clarkei, *Moore*, sp.

Fig. 1. Cardinal or dorsal view of the internal cast, Pl. XI, Fig. 1.

r.—Right valve.
l.—Left valve.
u. u.—Broken umbones.
n.—Thickened lower edge of articulus.

Fig. 2. Articulus of the imperfect right valve, Pl. VI, Fig. 3.—x 2.

a.—Blunt projecting cardinal tooth.
a^x.—Thickened lower edge of articulus.
b.—Anterior cardinal socket.
c.—Posterior cardinal socket.
d.—Shallow posterior end of *c*.
e.—Sharp oblique thickening of hinge plate above *d*.
f.—Nymph, widening in a posterior direction.
g.—Posterior boundary groove of lunule, passing to the cardinal tooth *a*
h.—Ligament groove passing under the prosogyrate umbo.
k.—Median impressed groove of ligament area *m*.
l.—Anterior impressed groove of ligament area *m*.
m.—Area occupied by expanded ligament.

Isocardia lunulata, *Nyst*.

Fig. 3. Articulus of the right valve.—x 2.

a^3.—Superior cardinal tooth.
$a^{3.1}$.—Inferior cardinal tooth.
b^3.—Socket for the reception of the cardinal tooth of the left valve,
f^3.—Nymph.
g^3.—Accessory ligament groove.
h^3.—Ligament groove.
o^3.—Anterior groove of lunule.
p^3.—Posterior groove of lunule.

Miocene of Eveghem.

Pseudavicula anomala, *Moore*, sp.

Fig. 4. Imperfect right valve, with a portion of the test remaining.
Mount Stuart Run—Colln. Macleay Museum.

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E. F. PITTMAN, A.R.S.M., GOVERNMENT GEOLOGIST.

PALÆONTOLOGY, No. 11.

A MONOGRAPH

OF THE

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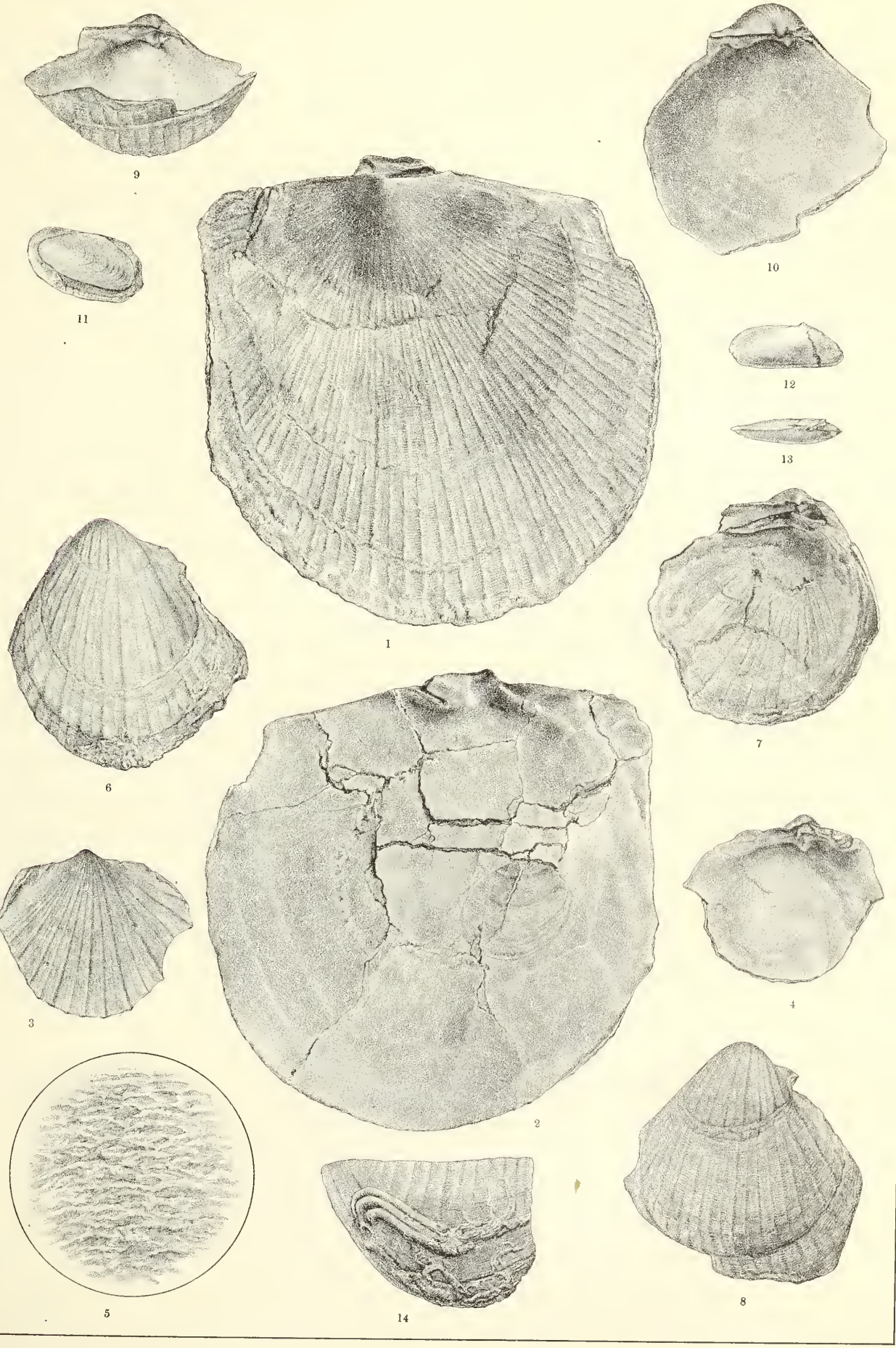

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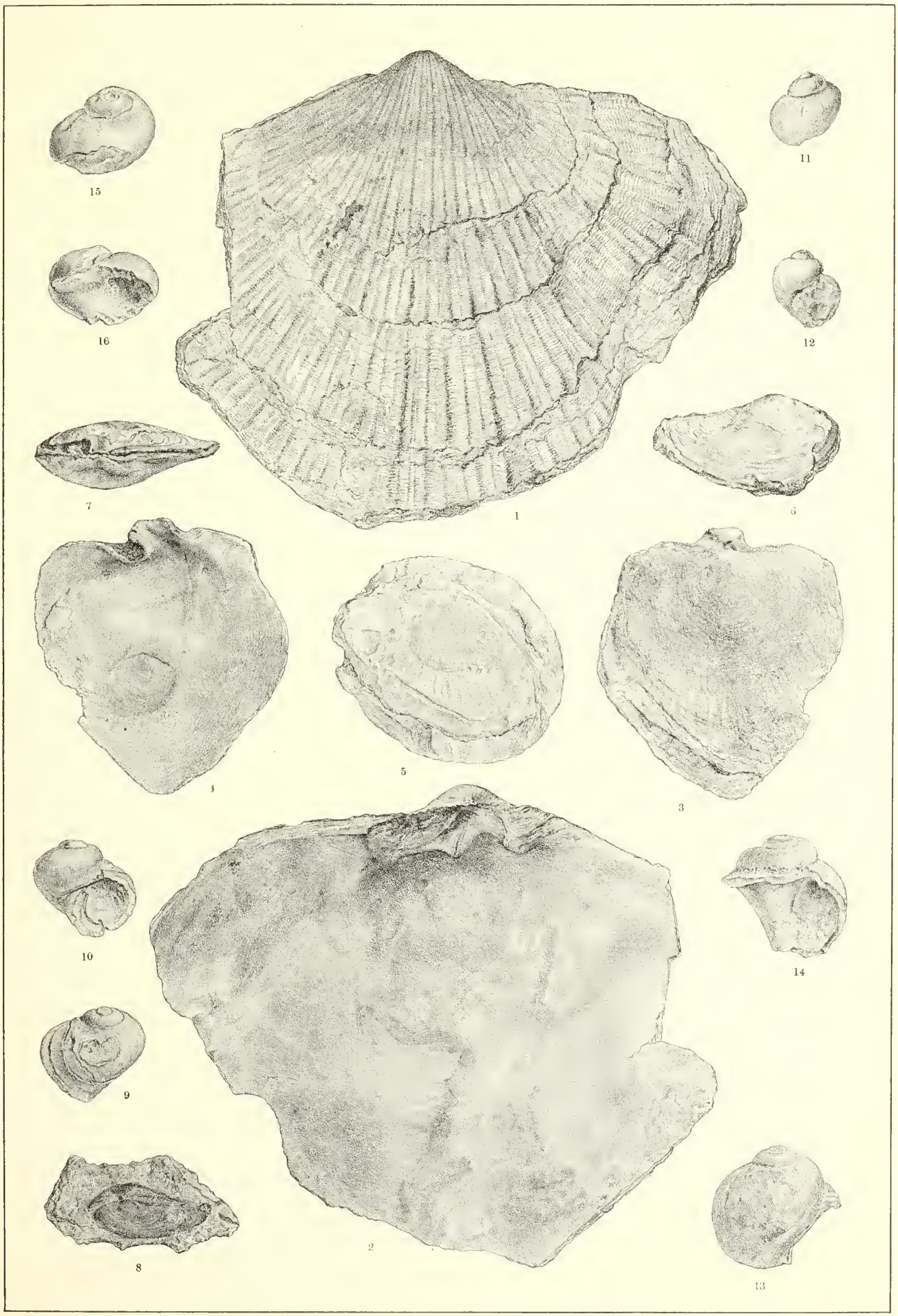

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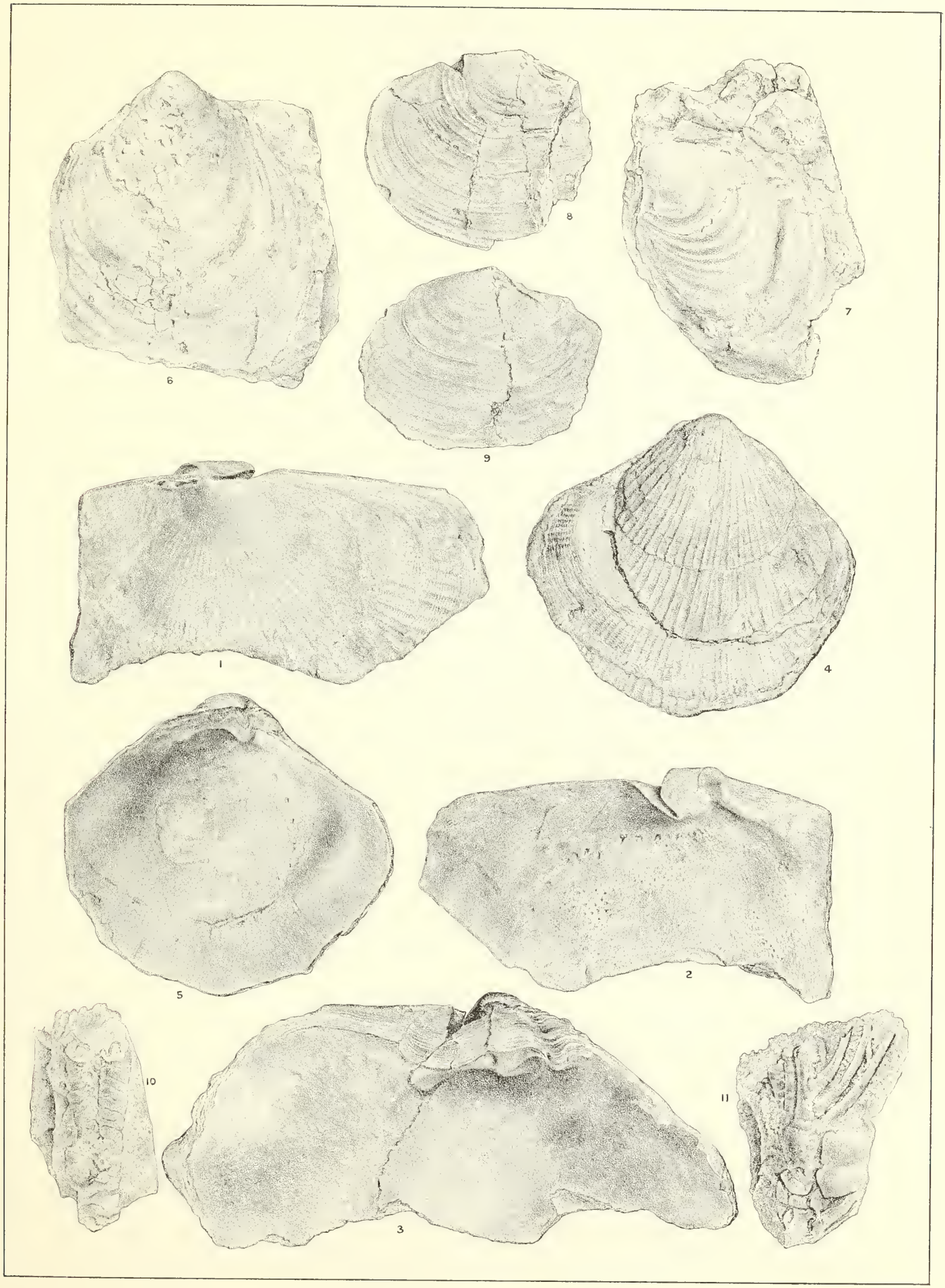

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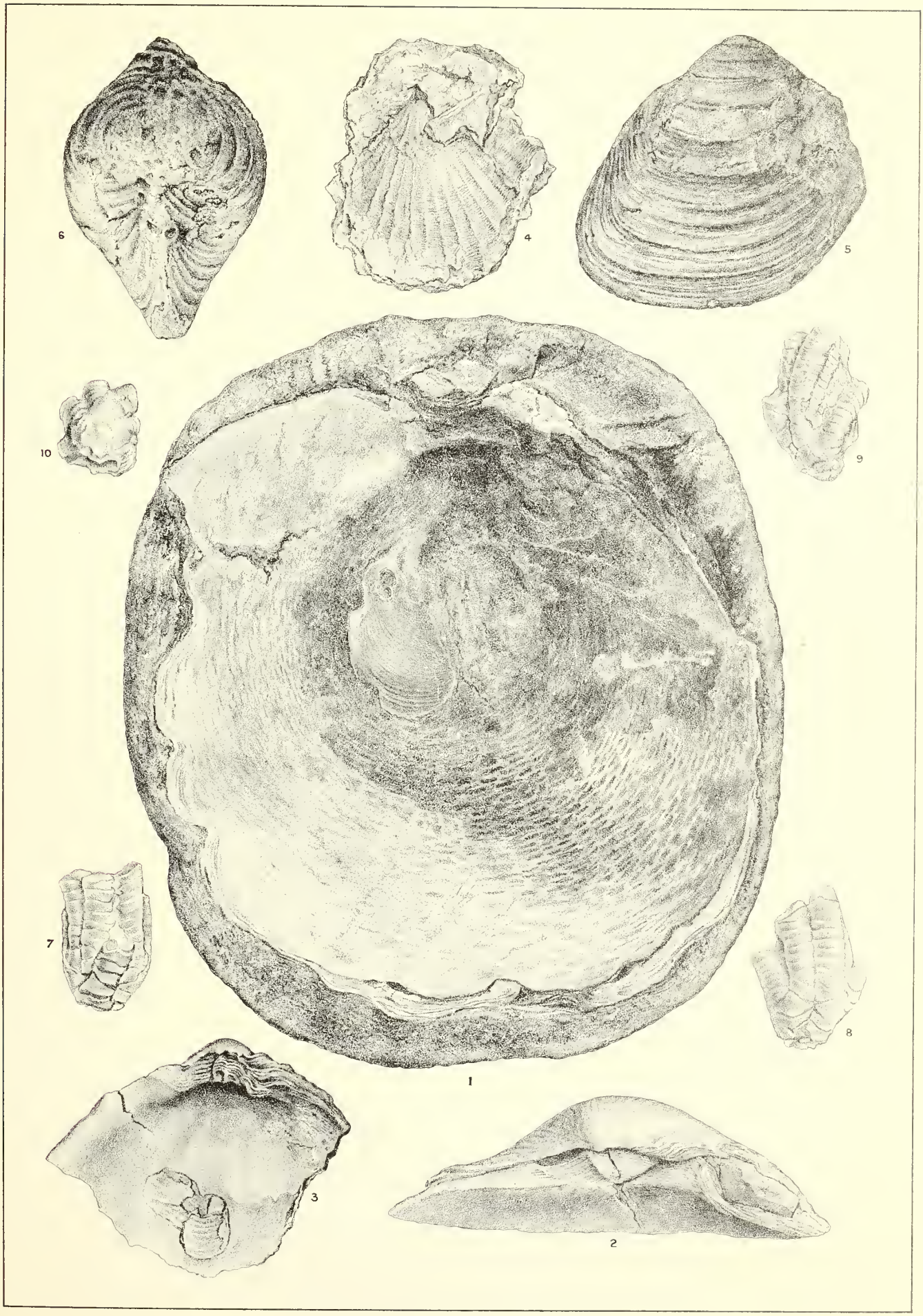

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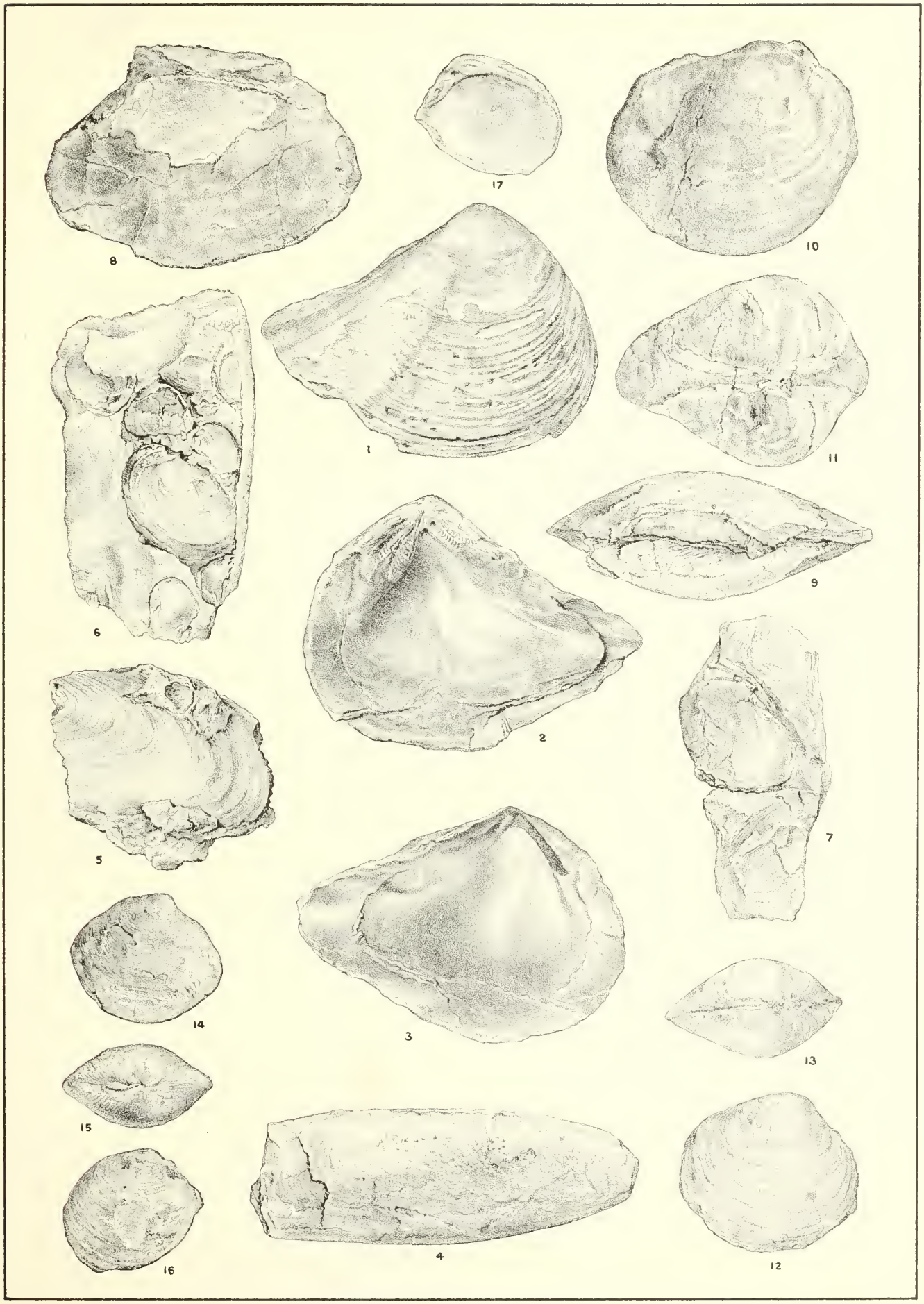

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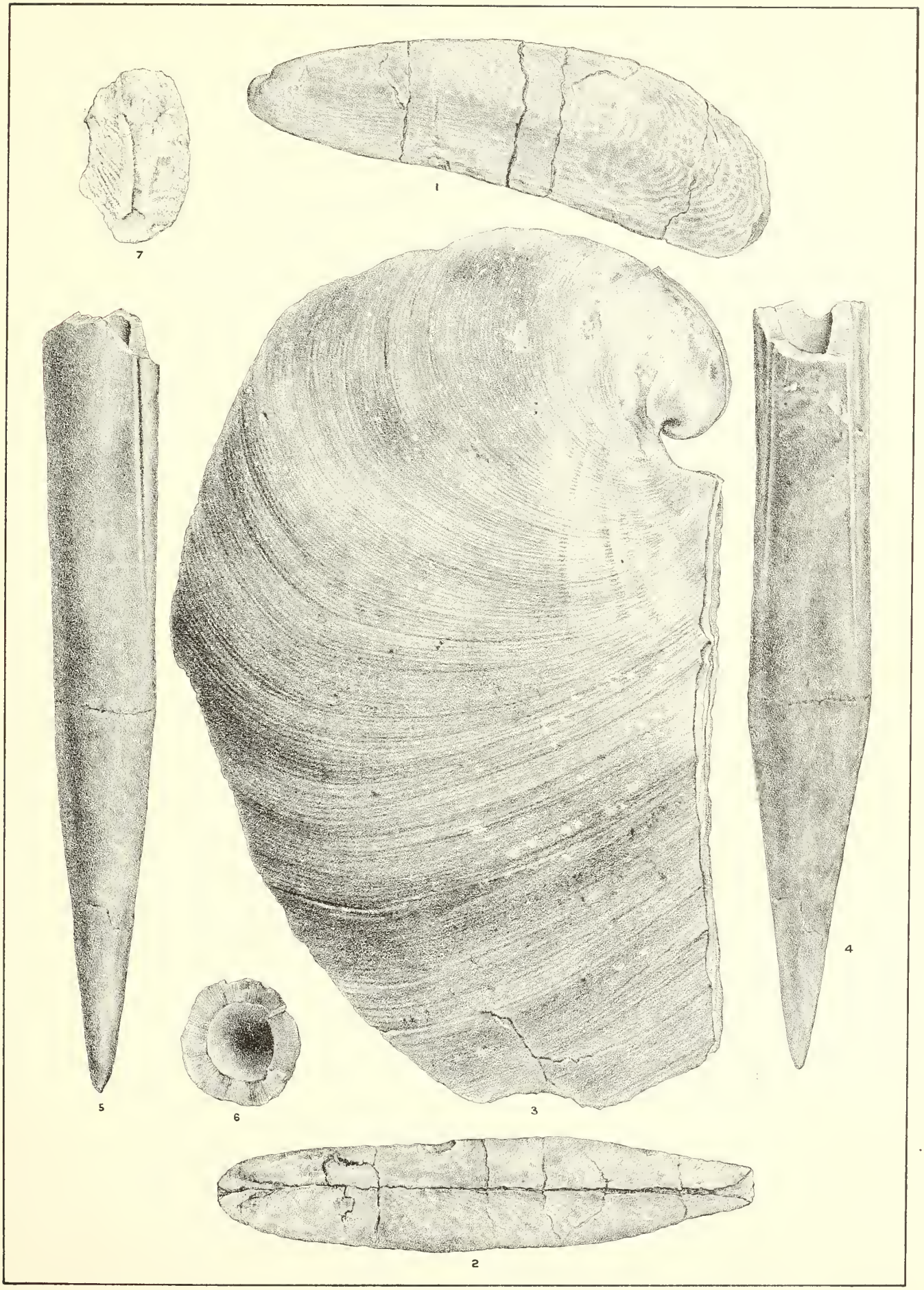

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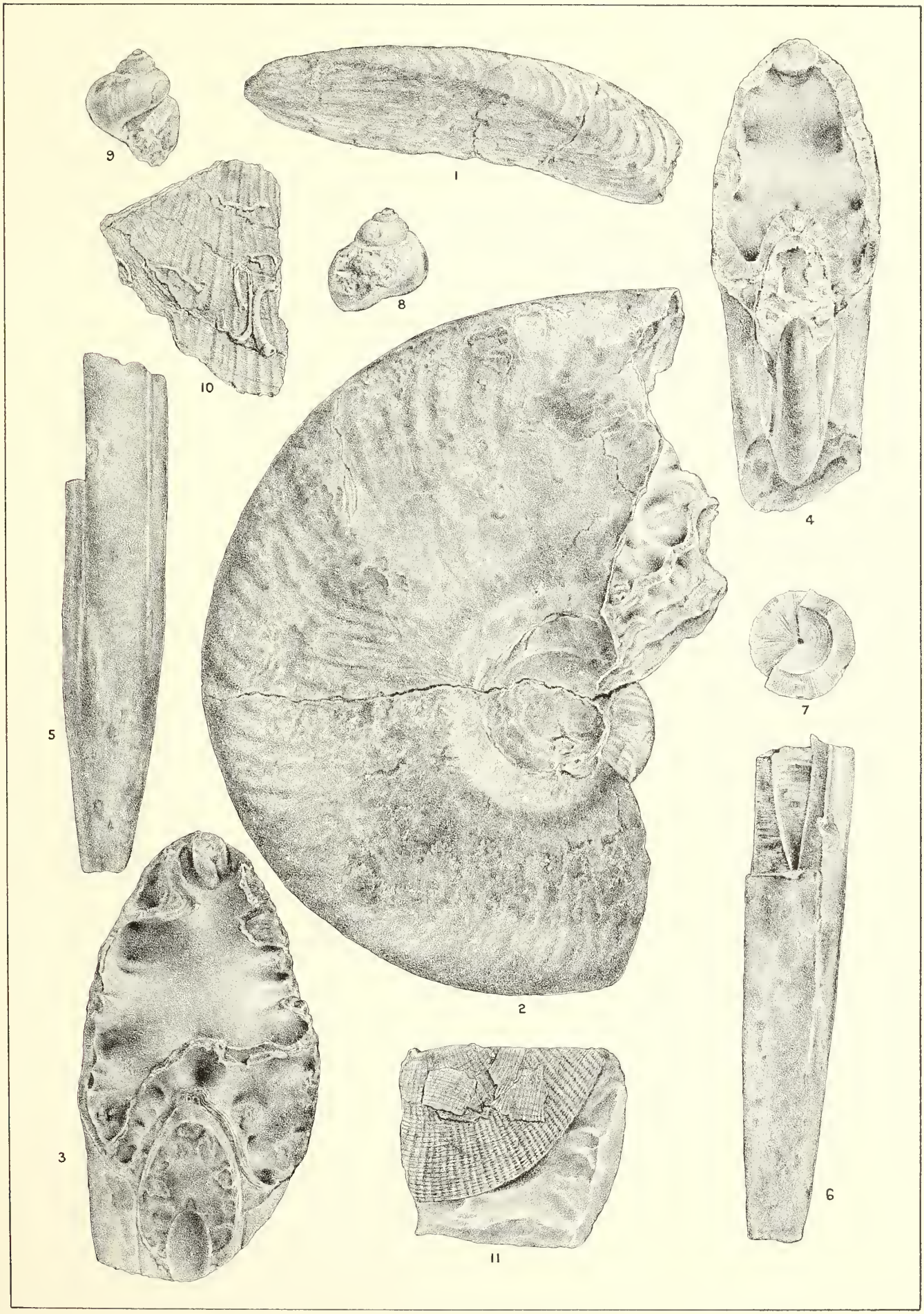

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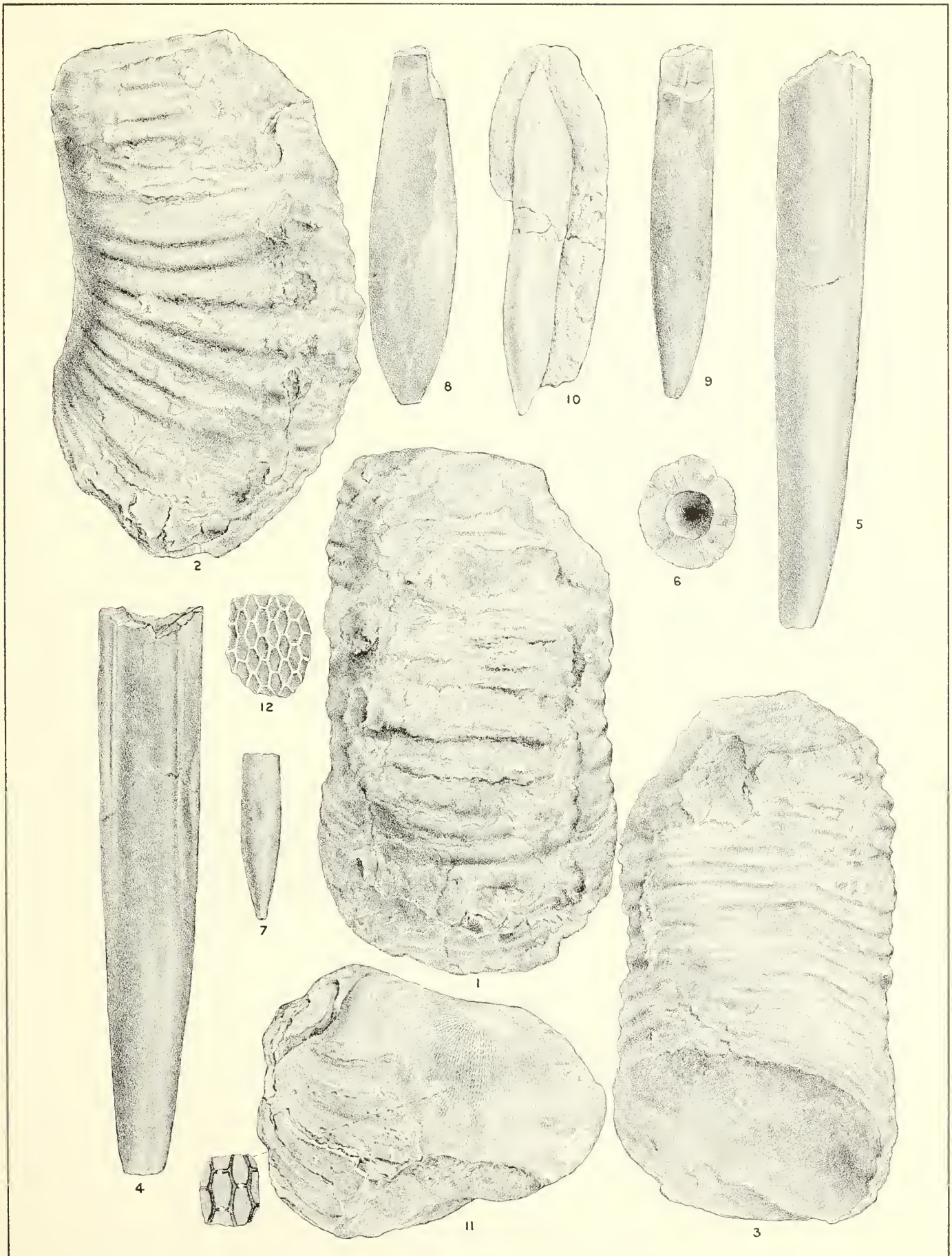

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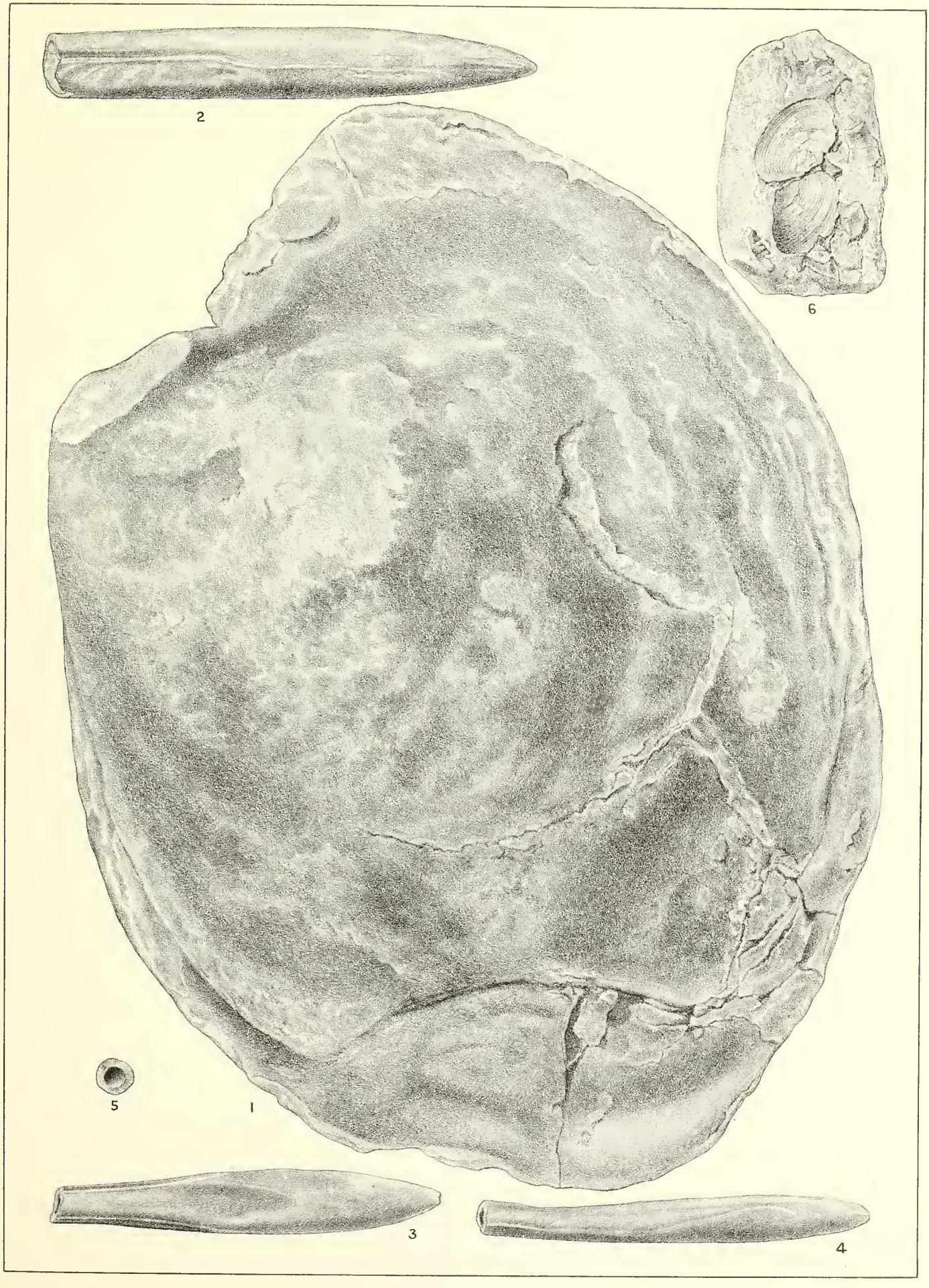

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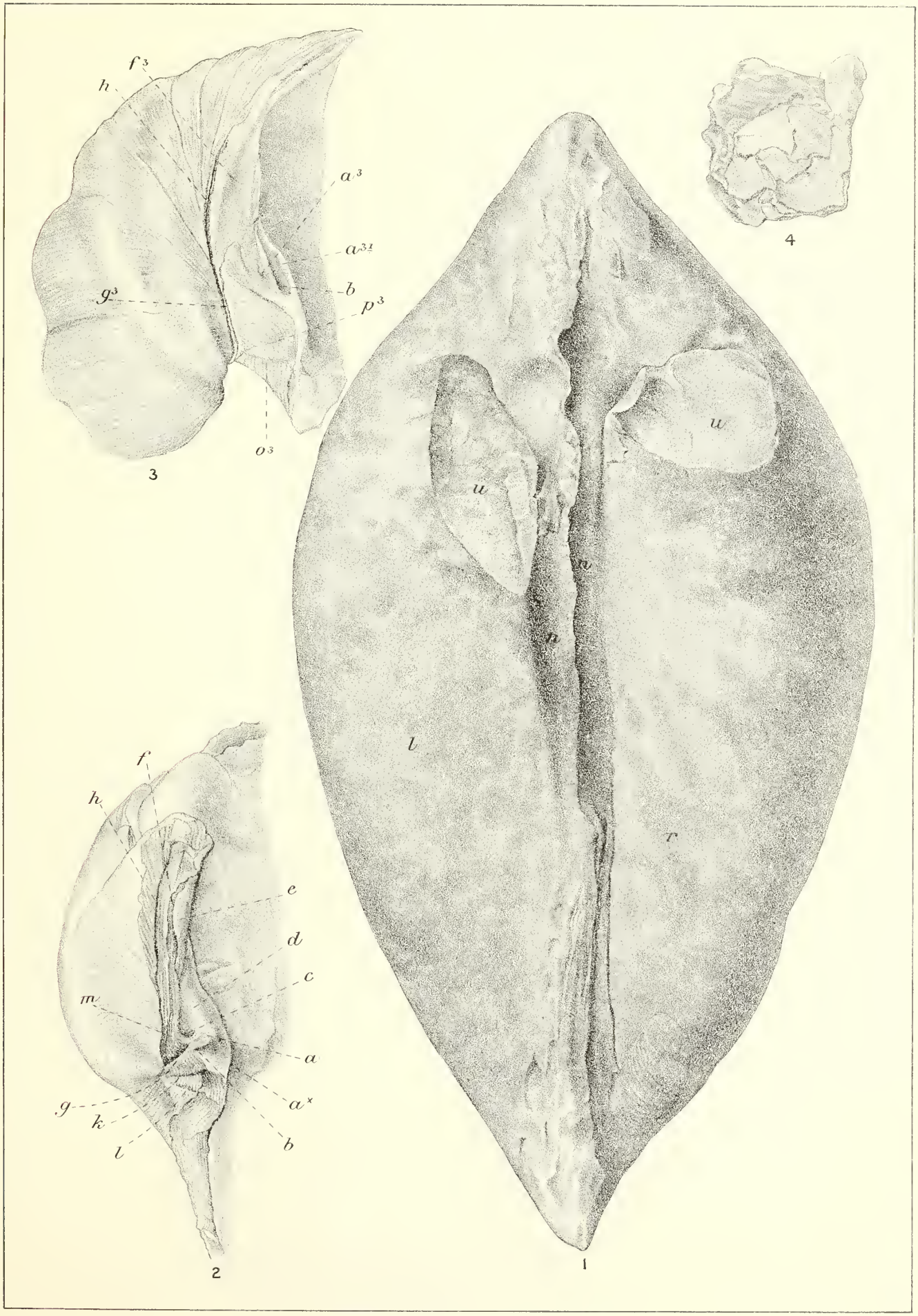

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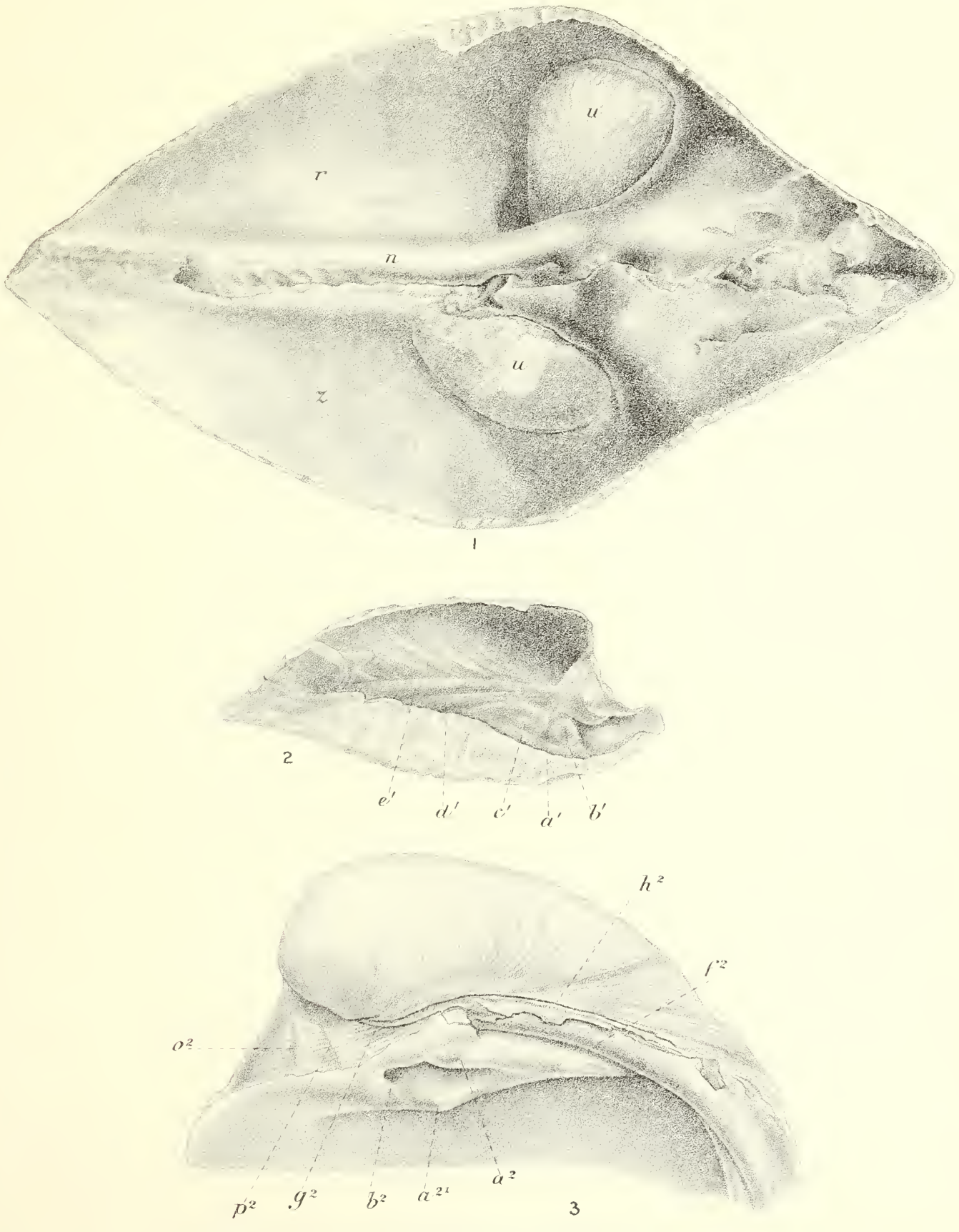

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